

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:37 ; Search time 48,2298 Seconds

(without alignments)
668,605 Million cell updates/sec

Title: US-10-072-681-1

Perfect score: 1277
Sequence: 1 PMSMLEYTLTAFLLGIGQAE.....FIRIDRACVLSRKAVRRA 242

Scoring table: BLOSOM62
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database : A.GeneSeq-101002:*

1: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA1980.DAT:*
2: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA1981.DAT:*
3: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA1982.DAT:*
4: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA1983.DAT:*
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9: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA1988.DAT:*
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11: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA1990.DAT:*
12: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA1991.DAT:*
13: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA1992.DAT:*
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17: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA1996.DAT:*
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20: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA1999.DAT:*
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22: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA2001.DAT:*
23: /SIDS2/gcgdata/geneseq/geneseq-emb1/AA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1270	99.5	241	12	AA13063 Human NGF Sma1-Apa
2	1270	99.5	241	12	AA13063 Human NGF Sma1-Apa
3	1270	99.5	241	12	AA13063 Human NGF Sma1-Apa
4	1270	99.5	241	12	AA13063 Human NGF Sma1-Apa
5	1270	99.5	241	12	AA13063 Human NGF Sma1-Apa
6	1270	99.5	241	12	AA13063 Human NGF Sma1-Apa
7	1270	99.5	241	12	AA13063 Human NGF Sma1-Apa
8	1270	99.5	241	12	AA13063 Human NGF Sma1-Apa
9	1270	99.5	241	12	AA13063 Human NGF Sma1-Apa
10	1270	99.5	241	12	AA13063 Human NGF Sma1-Apa

11	1270	99.5	241	23	ABR04994
12	1270	99.5	245	5	AA140038
13	1267	99.2	307	14	AA15241
14	1266	99.1	241	22	AA167865
15	1266	99.1	307	14	AA17799
16	1264	99.0	307	19	AA169725
17	1238	96.9	239	14	AA13910
18	1188.5	93.1	241	12	AA13886
19	1175	92.0	222	21	AA190884
20	1096	85.8	240	23	AA150845
21	1096	85.8	307	5	AA140036
22	1096	85.8	307	5	AA140039
23	1093	85.6	307	14	AA145240
24	996	78.0	240	14	AA13937
25	996	78.0	240	15	AA136451
26	991	77.6	240	13	AA166451
27	682	53.4	129	14	AA137599
28	682	53.4	129	18	AA124145
29	661	51.8	124	13	AA121851
30	657.5	51.5	154	13	AA122751
31	651	51.0	120	20	AA181117
32	651	51.0	120	21	AA182914
33	651	51.0	120	22	AA164994
34	651	51.0	120	22	AA135944
35	648	50.7	156	23	AA150303
36	648	50.7	157	21	AA181596
37	648	50.7	157	22	AA167677
38	648	50.7	157	23	AA185725
39	647.5	50.7	166	23	AA150301
40	647.5	50.7	167	22	AA167679
41	647	50.7	261	10	AA191299
42	647	50.7	262	7	AA161033
43	643	50.4	120	17	AA180531
44	642	50.3	118	10	AA191034
45	642	50.3	119	5	AA140040

ALIGNMENTS

RESULT 1	AA13063	standard; Protein; 241 AA.
XX	AA13063	
AC	AA13063	
DT	30-SEP-1991	(first entry)
XX		
DE	Human NGF Sma1-Apa1 fragment prod.	
XX		
KW	Expression vector; human nerve growth factor; yeast;	
KW	senile dementia.	
XX		
OS	Homo sapiens.	
XX		
PN	JP03139285-A.	
XX		
PD	13-JUN-1991.	
XX		
PF	20-DEC-1989;	89JP-0328199.
XX		
PR	27-JUL-1989;	89JP-0192581.
XX		
PA	(TAKE) TAKEDA CHEMICAL IND KK.	
XX		
DR	WPI: 1991-218449/30.	
DR	N-PSDB; AAQ12638.	
XX		
PT	New yeast expression vector - used in prodn. of human nerve growth	
PT	factor from corresp. yeast.	
XX		
PS	Disclosure: Fig 1(1-2); 14pp; Japanese.	
XX		

Human beta nerve g
Sequence encoded b
Human pre-pro nerv
Amino acid sequenc
Human NGF. Homo s
Human beta-nerve g
Nerve growth facto
NGF with pro-regio
Human proNGF prote
Mouse nerve growth
Sequence encoded b
Sequence encoded b
Cloned mouse pre-p
Sequence of pro re
Human NGF-2/NT-3 e
NGF2/NT-3 in PTB13
Recombinant beta-N
Chimeric neurotrop
Human growth hormo
Nerve growth facto
N-terminal of neut
Nerve growth facto
NGF-beta amino aci
Nerve growth facto
Nerve growth facto
Synthetic nerve gr
Nerve growth facto
Amino acid sequenc
Human nerve growth
Human beta-nerve g
Panitropic neurotro
Human nerve growth
Sequence encoded b

CC Human NGF is useful as a reagent for study of the nervous system, and
CC for treatment of senile dementia. The DNA encoding this fragment was
CC derived from the human gene or is synthesised chemically.
CC See also AA012639.

XX
SQ Sequence 241 AA;

Query Match 99.5%; Score 1270; DB 12; Length 241;
Best Local Similarity 100.0%; Pred. No. 1.3e-134;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 MSMLFYTLITAFILGIGQEPHSESNVPAGHTIPQVHWTKLOHSLDTALRRASAPAAIA 61
|||||
DB 1 MSMLFYTLITAFILGIGQEPHSESNVPAGHTIPQVHWTKLOHSLDTALRRASAPAAIA 60

OY 62 ARVAGOTRNITVDPRFLFKRRRLSPRVLESTQPREADTQDLDFEVGGAAPFNRTHSK 121
|||||
DB 61 ARVAGOTRNITVDPRFLFKRRRLSPRVLESTQPREADTQDLDFEVGGAAPFNRTHSK 120

OY 122 RSSSHPIFRHGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVNINNSVFKQYFETKCR 181
|||||
DB 121 RSSSHPIFRHGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVNINNSVFKQYFETKCR 180

OY 182 DPNPVDSCGCGIDSKHMNSYCTTHTFEVKALTMDSKQAMRFIRIDFACVLSKRAVRR 241
|||||
DB 181 DPNPVDSCGCGIDSKHMNSYCTTHTFEVKALTMDSKQAMRFIRIDFACVLSKRAVRR 240

OY 242 A 242
|
DB 241 A 241

RESULT 2

AAR11474
ID AAR11474 standard; Protein; 241 AA.

XX AC AAR11474;

DT 26-APR-1991 (first entry)

DE Human nerve growth factor.

XX NGF; senile dementia.

XX Homo sapiens.

PH Key location/Qualifiers

FT Peptide 1..18 /label= signal sequence

FT Protein 19..241 /label= pro-NGF

FT Protein 122..241 /label= mature NGF

FT Disulfide-bond 135..202

FT Disulfide-bond 180..230

FT Disulfide-bond 190..232

PN EP414151-A.

PD 27-FEB-1991.

PF 17-AUG-1990; 90BP-0115815.

PR 21-AUG-1989; 89JP-0212980.

PR 20-DEC-1988; 89JP-0328198.

PR 13-APR-1990; 90JP-0096252.

PR 07-JUN-1990; 90JP-0147392.

XX (TAKE) TAKEDA CHEMICALS IND KK.

XX PA Kakinuma A, Nakahama K, Yoshimura K, Kaisho Y, Iwanw M;

XX PI

XX DR WPI; 1991-059398/09.

DR N-PSDB; AA010620.

XX Human nerve growth factor containing cysteine residues - used as
PT reagent and therapeutic drug for senile dementia.

XX Claim 1; Fig 1; 33pp; English.

CC The sequence was deduced from a clone isolated from a lambda EMBL3
CC genomic library prep. from human leukocyte DNA, using a probe
CC synthesised based on the sequence of the known human NGF gene [A.
CC Ullrich et al., Nature 303, 821 (1983)]. The clone, betaLN2113,
CC isolated from the library was cleaved with SmaI and ApaI to remove
CC a 1kb fragment contg. the gene which was then inserted into plasmid
CC pBluescript IIK to obtain pNGFP107G. The gene was sequenced from
CC this plasmid using Sequase (Biochemical). The sequence of the
CC protein coding region was found to be in complete agreement with
CC that of Ullrich et al. The sequence was used to produce
CC recombinant h-NGF for use in the prodn. of drugs for e.g. senile
CC dementia.

XX Sequence 241 AA;

Query Match 99.5%; Score 1270; DB 12; Length 241;
Best Local Similarity 100.0%; Pred. No. 1.3e-134;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 MSMLFYTLITAFILGIGQEPHSESNVPAGHTIPQVHWTKLOHSLDTALRRASAPAAIA 61
|||||
DB 1 MSMLFYTLITAFILGIGQEPHSESNVPAGHTIPQVHWTKLOHSLDTALRRASAPAAIA 60

OY 62 ARVAGOTRNITVDPRFLFKRRRLSPRVLESTQPREADTQDLDFEVGGAAPFNRTHSK 121
|||||
DB 61 ARVAGOTRNITVDPRFLFKRRRLSPRVLESTQPREADTQDLDFEVGGAAPFNRTHSK 120

OY 122 RSSSHPIFRHGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVNINNSVFKQYFETKCR 181
|||||
DB 121 RSSSHPIFRHGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVNINNSVFKQYFETKCR 180

OY 182 DPNPVDSCGCGIDSKHMNSYCTTHTFEVKALTMDSKQAMRFIRIDFACVLSKRAVRR 241
|||||
DB 181 DPNPVDSCGCGIDSKHMNSYCTTHTFEVKALTMDSKQAMRFIRIDFACVLSKRAVRR 240

OY 242 A 242
|
DB 241 A 241

RESULT 3

AAR13858
ID AAR13858 standard; Protein; 241 AA.

XX AC AAR13858;

DT 21-NOV-1991 (first entry)

DE Human nerve growth factor.

XX hNGF.

XX Homo sapiens.

PN JP03175976-A.

PD 31-JUL-1991.

PF 12-DEC-1989; 89JP-0320483.

PR 30-SEP-1989; 89JP-0253796.

PR 15-DEC-1988; 89JP-0314860.

PR 12-DEC-1989; 89JP-0320483.

XX (TAKE) TAKEDA CHEMICAL IND KK.

XX PA

XX DR

DR WPI: 1991-269694/37.
 DR N-PSDB: AA033937.
 XX
 PT Secretory prep. of animal protein - by culturing
 PT Schizosaccharomyces pombe which retains DNA at 3'-terminal of
 PT promoter region.
 XX
 PS Disclosure: Fig 3; 12pp; Japanese.
 XX
 CC The amino acid sequence is encoded that of human nerve growth factor
 CC (NGF). It may be expressed in Schizosaccharomyces pombe using the
 CC glyceraldehyde-3-phosphate dehydrogenase (GPD) gene promoter.
 XX
 SQ Sequence 241 AA;
 Query Match 99.5%; Score 1270; DB 12; Length 241;
 Best Local Similarity 100.0%; Pred. No. 1.3e-134;
 Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 2 MSMLFTLITAFLLIGIOAEPHSESNNVAGHTIPQVHMTKLOHSIDTLARRARSPAAIA 61
 DB 1 MSMLFTLITAFLLIGIOAEPHSESNNVAGHTIPQVHMTKLOHSIDTLARRARSPAAIA 60
 QY 62 ARVAGOTRNITVDPRLEFKKRLRSPRVLFSTOPPREADTQDDLEFGAAPPFRTHRSK 121
 DB 61 ARVAGOTRNITVDPRLEFKKRLRSPRVLFSTOPPREADTQDDLEFGAAPPFRTHRSK 120
 QY 122 RSSSHPIFHNGEFSVCDVSVMVGDKTTATDIDKGEVMVLGEVININSVFKEYFEETKCR 181
 DB 121 RSSSHPIFHNGEFSVCDVSVMVGDKTTATDIDKGEVMVLGEVININSVFKEYFEETKCR 180
 QY 182 DPNPVDGCGIDSKHNSCTTHTFEVKALTMGKOAAMRFIRIDPACVLSRKAARR 241
 DB 181 DPNPVDGCGIDSKHNSCTTHTFEVKALTMGKOAAMRFIRIDPACVLSRKAARR 240
 QY 242 A 242
 DB 241 A 241
 RESULT 4
 AAR7419
 ID AAR7419 standard; Protein: 241 AA.
 AC AAR7419;
 XX
 DT 10-FEB-1996 (first entry)
 XX
 DE Human nerve growth factor.
 XX
 KM Nerve growth factor; neurotrophic factor; therapeutic;
 KM protein refolding; NGF.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT Protein 122..241
 FT /note= "mature protein"
 FT Region 1..121
 FT /note= "pre-region"
 XX
 PN MO9530686-A1.
 XX
 PD 16-NOV-1995.
 XX
 PF 02-MAY-1995; 95MO-US05423.
 XX
 PR 27-JUN-1994; 94US-0266080.
 PR 09-MAY-1994; 94US-0240122.
 XX
 PA (SYNT) SYNTAX-SYNERGEN NEUROSCIENCE JOINT VENTU.
 XX
 PI Bonam D, Kohno T, Lille J, Rosendahl MS;

XX
 DR WPI: 1995-404080/51.
 DR N-PSDB: AAT05437.
 XX
 PT Process for bacterial expression of recombinant neurotrophic factor
 PT - useful for promoting the survival and maintaining phenotypic
 PT differentiation of nerve and glial cells.
 XX
 PS Disclosure; Page 33-34; 57pp; English.
 XX
 CC The nerve growth factor (NGF) gene is expressed in Escherichia
 CC coli cells. The recombinant protein is solubilized and
 CC sulfonlated and allowed to refold in the presence of PEG and urea.
 CC Biologically active NGF, used for promoting the survival of and
 CC maintaining the phenotypic differentiation of nerve and glial cells,
 CC is isolated and purified. This method breaks incorrectly formed
 CC disulphide bonds and allows refolding of the factor into the correct
 CC tertiary structure required for maximum yield of full active protein.
 XX
 SQ Sequence 241 AA;
 Query Match 99.5%; Score 1270; DB 16; Length 241;
 Best Local Similarity 100.0%; Pred. No. 1.3e-134;
 Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 2 MSMLFTLITAFLLIGIOAEPHSESNNVAGHTIPQVHMTKLOHSIDTLARRARSPAAIA 61
 DB 1 MSMLFTLITAFLLIGIOAEPHSESNNVAGHTIPQVHMTKLOHSIDTLARRARSPAAIA 60
 QY 62 ARVAGOTRNITVDPRLEFKKRLRSPRVLFSTOPPREADTQDDLEFGAAPPFRTHRSK 121
 DB 61 ARVAGOTRNITVDPRLEFKKRLRSPRVLFSTOPPREADTQDDLEFGAAPPFRTHRSK 120
 QY 122 RSSSHPIFHNGEFSVCDVSVMVGDKTTATDIDKGEVMVLGEVININSVFKEYFEETKCR 181
 DB 121 RSSSHPIFHNGEFSVCDVSVMVGDKTTATDIDKGEVMVLGEVININSVFKEYFEETKCR 180
 QY 182 DPNPVDGCGIDSKHNSCTTHTFEVKALTMGKOAAMRFIRIDPACVLSRKAARR 241
 DB 181 DPNPVDGCGIDSKHNSCTTHTFEVKALTMGKOAAMRFIRIDPACVLSRKAARR 240
 QY 242 A 242
 DB 241 A 241
 RESULT 5
 AAR66688
 ID AAR66688 standard; Protein: 241 AA.
 AC AAR66688;
 XX
 DT 23-AUG-1995 (first entry)
 XX
 DE Human nerve growth factor.
 XX
 KM Human nerve growth factor; hNGF; polyclonal antibody;
 KM immunogen; enzyme immunoassay.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT Peptide 1..18
 FT /label= sig_peptide
 FT Peptide 19..121
 FT /label= pro_peptide
 FT MISC-difference 8
 FT /note= "corresponding codon TCG"
 FT MISC-difference 59
 FT /note= "corresponding codon TAT"
 FT MISC-difference 173
 FT /note= "corresponding codon TAG"
 FT Disulfide-bond 136..201

```
FT Disulfide-bond 179..229
FT Disulfide-bond 189..231
PN JP06317587-A.
XX
PD 15-NOV-1994.
XX
PE 14-FEB-1991; 91JP-0021181.
XX
PR 31-AUG-1990; 90JP-0231317.
XX
PA (TAKE ) TAKEDA CHEM IND LTD.
XX
DR WPI; 1995-033116/05.
DR N-PSDB; AA079871.
XX
PT Polyclonal antibody against human nerve growth factor (NGF) -
PT useful to detect human NGF, for diagnosis of disease
XX
PS Example 1; Pages 31-33; 35pp; Japanese.
XX
CC AA079871 encodes AAR66688 human nerve growth factor (hNGF), the
CC protein was used as an immunogen to generate a polyclonal
CC antibody against hNGF. The polyclonal antibody can be used
CC to detect and determine hNGF pref. by enzyme immunoassay.
XX
SQ Sequence 241 AA:
Query Match 99.5%; Score 1270; DB 16; Length 241;
Best Local Similarity 100.0%; Pred. No. 1.3e-134;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 2 MSMLFTLTITAFILGIGIAEPHSESNYPAGHTTIPQVHMTKLOHSLDPTALRRASAPAAATA 61
DB 1 MSMLFTLTITAFILGIGIAEPHSESNYPAGHTTIPQVHMTKLOHSLDPTALRRASAPAAATA 60
OY 62 ARVAGOTRNITVDPRLFKKRLRSPRVLFSTQPPREADTODLDFEVGGAAPFNRTNRSK 121
DB 61 ARVAGOTRNITVDPRLFKKRLRSPRVLFSTQPPREADTODLDFEVGGAAPFNRTNRSK 120
OY 122 RSSHPHFHRRGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVINNSVFKQYFFETKCR 181
DB 121 RSSHPHFHRRGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVINNSVFKQYFFETKCR 180
OY 182 DENPVDSCRGIDSKHMNSYCTTHTFVKALTMDSKQAMRFIRIDTACVLSRKAARR 241
DB 181 DENPVDSCRGIDSKHMNSYCTTHTFVKALTMDSKQAMRFIRIDTACVLSRKAARR 240
OY 242 A 242
DB 241 A 241
RESULT 6
AAW26237
ID AAW26237 standard; Protein; 241 AA.
XX
AC AAW26237;
XX
XX 16-MAR-1998 (first entry)
XX
DE Human preproNGF.
XX
KM Fusion protein; hydrophilic spacer; recombinant; expression system;
KM carboxypeptidase; preproNGF.
XX
OS Homo sapiens.
XX
PN WO9728272-A1.
XX
PD 07-AUG-1997.
XX
PF 31-JAN-1997; 97WO-US01470.
```

```
XX
PR 31-JAN-1996; 96US-0595043.
XX
PA (TECH-) TECHNOLOGENE INC.
XX
PI Sgarlato GD;
XX
DR WPI; 1997-402624/37.
DR N-PSDB; AAT80162.
XX
PT Recombinant protein expression system for fusion protein production
PT - useful for high quantity production of authentic recombinant
PT proteins
XX
PS Example 6; Page 140-141; 194pp; English.
XX
CC A novel recombinant vector has been developed which comprises a
CC nucleotide sequence encoding a fusion protein. The fusion protein
CC comprises three domains joined together in order, from N-terminus to
CC C-terminus, of a first domain comprising a protein of interest, a second
CC domain comprising a hydrophilic spacer and an affinity domain, each
CC domain comprising amino acid residues. The present sequence represents
CC human preproNGF, used in example 6 of the present invention. The
CC recombinant vector is used for the production of authentic recombinant
CC proteins of interest. The method of the invention is useful for the
CC expression of fusion proteins capable of isolation by affinity
CC chromatography in pro- or eukaryotic cells. This method allows
CC for the efficient cleavage and generation of authentic proteins of
CC interest that do not contain extraneous (i.e. non-naturally occurring)
CC amino acids.
XX
SQ Sequence 241 AA:
Query Match 99.5%; Score 1270; DB 18; Length 241;
Best Local Similarity 100.0%; Pred. No. 1.3e-134;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 2 MSMLFTLTITAFILGIGIAEPHSESNYPAGHTTIPQVHMTKLOHSLDPTALRRASAPAAATA 61
DB 1 MSMLFTLTITAFILGIGIAEPHSESNYPAGHTTIPQVHMTKLOHSLDPTALRRASAPAAATA 60
OY 62 ARVAGOTRNITVDPRLFKKRLRSPRVLFSTQPPREADTODLDFEVGGAAPFNRTNRSK 121
DB 61 ARVAGOTRNITVDPRLFKKRLRSPRVLFSTQPPREADTODLDFEVGGAAPFNRTNRSK 120
OY 122 RSSHPHFHRRGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVINNSVFKQYFFETKCR 181
DB 121 RSSHPHFHRRGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVINNSVFKQYFFETKCR 180
OY 182 DENPVDSCRGIDSKHMNSYCTTHTFVKALTMDSKQAMRFIRIDTACVLSRKAARR 241
DB 181 DENPVDSCRGIDSKHMNSYCTTHTFVKALTMDSKQAMRFIRIDTACVLSRKAARR 240
OY 242 A 242
DB 241 A 241
RESULT 7
AAW48886
ID AAW48886 standard; Protein; 241 AA.
XX
AC AAW48886;
XX
XX 12-OCT-1998 (first entry)
XX
DE Human prepro-nerve growth factor beta chain.
XX
KM Neurotrophin; nerve growth factor; NGF; human; purification;
KM hydrophobic interaction chromatography.
XX
OS Homo sapiens.
XX
```

FT Key Location/Qualifiers
FT Protein 1..121
FT Protein /label- Prepro_region
FT Protein 122..241
FT Modified-site /label- Mat_protein
FT 167
FT Region /note- "N-glycosylated"
FT 179..189
FT /note- "conserved Cys-containing region involved in
FT Region 229..231
FT /note- "conserved Cys-containing region involved in
FT Cys knot motif"
FT Cys knot motif"
XX MO9821234-A2.
XX
XX
XX 22-MAY-1998.
XX
XX 14-NOV-1997; 97MO-US21068.
XX
XX 29-MAY-1997; 97US-0047855.
XX 15-NOV-1996; 96US-0030838.
XX
XX (GETH) GENENTECH INC.
XX
XX Beck JT, Burton LE, Schmelzer CH;
XX WPI; 1998-322333/28.
XX
XX Isolation of neurotrophin(s) from, e.g. mis-folded or glycosylated
PT variant(s) - using hydrophobic interaction chromatography,
PT optionally in combination with high performance cation exchange
PT chromatography
XX
XX Disclosure: Fig 4; 59pp; English.
XX
XX This polypeptide comprises the human nerve growth factor (NGF)
CC beta chain precursor. Methods are provided for large-scale
CC purification of neurotrophins, including mature NGF, suitable for
CC clinical use. A claimed method comprises: (1) separating the
CC neurotrophin from the other proteins using a hydrophobic
CC interaction chromatography resin (HICR); and optionally (2)
CC separating the neurotrophin from a chemical variant by high
CC performance cation exchange chromatography (HPEC). The processes
CC can also be used for purification of e.g. mouse NGF (see AAM4887),
CC brain-derived neurotrophic factor (see AAM4888), neurotrophin-4/5
CC (see AAM4889) and neurotrophin-3 (see AAM4889). The processes allow
CC separation of neurotrophins from various undesirable misprocessed,
CC misfolded, size, glycosylated or charge forms. They allow selective
CC separation from their variants and other molecules, and from other
CC polypeptides with high pi. The processes are applicable to
CC starting materials from various sources, including fermentation
CC broths or lysed bacterial or mammalian cells.
XX
XX
SQ Sequence 241 AA:
Query Match 99.5%; Score 1270; DB 19; Length 241;
Best Local Similarity 100.0%; Pred. No. 1.3e-134;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 181 DPNVDSGCGIDSKHNSCTTHTFVKALTMGKQAARFTRIDRACVLSRKAVR 240
OY 242 A 242
DB 241 A 241
RESULT 8
ID AAY07303 standard; Protein; 241 AA.
XX AAY07303;
AC AAY07303;
XX
XX 06-JUL-1999 (first entry)
XX
XX Human nerve growth factor beta protein.
XX
XX Cerebrospinal; axon; growth; mammal; spinal cord injury; lesion; NGF2;
XX expression vector; neurotrophin; nerve growth factor 2; neurotrophin 3;
XX NT3; voluntary motor function.
XX Homo sapiens.
XX OS
XX MO9900148-A2.
XX
XX 07-JAN-1999.
XX
XX 30-JUN-1998; 98MO-US13778.
XX
XX 30-JUN-1997; 97US-0051255.
XX
XX (REGC) UNIV CALIFORNIA.
XX
XX Gage FH, Grill R, Tuszynski MH;
XX WPI; 1999-095478/08.
XX N-PSDB; AAX34366.
XX
XX Treating spinal cord injuries in a mammal - by inducing growth of
PT cerebrospinal projection axons using a recombinant vector for
PT expressing CST neurotrophin
XX
XX Disclosure: Fig 6; 49pp; English.
XX
XX The invention relates to a method of inducing cerebrospinal projection
CC (CST) axon growth in a mammal with a spinal cord injury that involves
CC a CST lesion by delivering a recombinant expression vector for CST
CC neurotrophin, such as this sequence - nerve growth factor beta. The
CC method is used to induce partial recovery of voluntary motor function
CC in a mammal after disruption of corticospinal projections in the spinal
CC cord.
XX
XX
SQ Sequence 241 AA:
Query Match 99.5%; Score 1270; DB 20; Length 241;
Best Local Similarity 100.0%; Pred. No. 1.3e-134;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 181 DPNPVDSGCRGIDSKHNNSTCTTHTFVKALITDGDQANRFRIPIACVLSRAVR 240
QY 242 A 242
Db 241 A 241

RESULT 9

AAB66929
ID AAB66929 standard; Protein; 241 AA.

AC AAB66929;

DT 17-APR-2001 (first entry)

DE Human NGF.

Human: neuroprotective; neuronal factor; NF; neurotrophin-3; NT-3;
 KW neurodegenerative disease; Alzheimer's disease; Parkinson's disease;
 KW Huntington's chorea; nerve damage; nerve growth factor; NGF.

Homo sapiens

PN US6174701-B1.

PD 16-JAN-2001.

PF 31-MAY-1995; 95US-0455741.

PR 15-MAR-1990; 90US-0494024
01-JAN-1995; 90US-0381030
05-DEC-1994; 90US-0381030

PR 12-DEC-1989; 89US-0449811.
yy

PA (GETH) GENENTECH INC.
XX

PI	Rosenthal A,	Winslow
YY		

DR WPI; 2001-201803/20.
XX

PT New nucleic acid endonuclease

PT which is useful for enhancing the survival of nerve cells and treating
 PT neurodegenerative diseases -
 XX
 PS Disclosure; Fig 3; 18pp; English.

The present invention relates to neurotrophic factor (NF; also known as neurotrophin-3/NT-3; see AAF55892-AAF55830 and AAF66927-AAF66988). NF is useful in treating neurodegenerative diseases, e.g., Alzheimer's disease, Parkinson's disease, Huntington's chorea and other conditions characterised by necrosis or loss of neurons. NF is also useful for treating damaged nerves, e.g., nerves damaged by traumatic conditions such as burns or wounds. The present sequence is human nerve growth factor (NGF), which was used in a sequence homology alignment with human NF protein.

SQ Sequence 241 AA

Query Match	Score	DB	Length
99.58;	1270;	22;	241;

Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 MSMLFYTLTAFLGIAEPHSESNVPAGHTIPQVHWTKLOHSLDTALRRARSAPAAIA 61

Db	1	MSHLFTLTIAFLIGIQAPHSSENVNPGHPTPOYHNTKLOHSLDTLRLRRSRAPAAIA	60
Qy	62	ARVAGOTRNTYDPRLEFKRRRLSPRVLESTDPREADDTDLDEYVGAAFPNRTIRSK	121
Db	61	ARVAGOTRNTYDPRLEFKRRRLSPRVLESTDPREADDTDLDEYVGAAFPNRTIRSK	120
Qy	122	RSSSHPIFHRRGEFVCDSDSVVWVGDKTTATDIKGEVAVLEGNVNNNSVFOYFEFKR	184
Db	121	RSSSHPIFHRRGEFVCDSDSVVWVGDKTTATDIKGEVAVLEGNVNNNSVFOYFEFKR	180

QY	182	DPNPVDSGCRGIDSKHNNSYCTTHTFEVKALTMGCKOAAAREIIPDACYCVLSRKA	241
Db	181	DPNPVDSGCRGIDSKHNNSYCTTHTFEVKALTMGCKOAAAREIIPDACYCVLSRKA <td>240</td>	240
QY	242	A 242	
Db	241	A 241	

RESULT 10

ID	AAE18904	standard; Protein; 241 AA

AC AAEL18904;

DT 21-MAY-2002 (first entry)
XX

DE : Human beta nerve growth factor (NGF) protein

KW Human; nerve growth factor; NGF; neurotrophin; cholinergic neuron;
KW gene therapy; neuroprotective; Alzheimer's disease; Parkinson's disease;
KW neurodegenerative condition; ALS; amyotrophic lateral sclerosis.

OS Homo sapiens

PN WO200207774-A2

PD 31-JAN-2002.

PF 17-MAY-2001; 2001WO-US16122.

PR 19-JUL-2000; 2000US-06201/4
XX

PA (REGC) UNIV CALIFORNIA.
XX

PI Tuszynski MH,
YY

DR WPT; 2002-195846/25
DR N-PSDB: AAD30144.

xx Delivering therapeutic neurotrophin to targeted defective, diseased or
 xx damaged cholinergic neurons, useful for treating neurodegenerative
 xx disease, comprises administering a neurotrophin encoding transgene into
 xx the brain -
 xx
 xx Example 1; Fig 2; 38pp; English.

The invention relates to a method for delivering therapeutic neurotrophin to targeted defective, diseased or damaged cholinergic neurons in the mammalian brain. The method comprises delivering a neurotrophic composition comprising a neurotrophin encoding transgene into one or more delivery sites within a region of the brain containing targeted neurons. The method is useful for treating neurodegenerative conditions such as Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS) in primates by stimulating the growth of neurons thus recovering neurological function. The present sequence is human nerve growth factor (NGF-2) protein which is a neurotrophin.

..... SQ Sequence 241 AA;

Query Match	Score	DB	Length
99.58;	1270;	23;	241.

```

Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0.

```

2 MSMLFYTLITAFLLIGIAEPHSESNVPAGHTIPQVHWTKLQHSLDLALRRARSAPAAAI 61

[illegible]

Oy	122	RSSHPHHRGEFSVCDSVSWVGKTTATDICKGEVWVLGEVNNINSVEKOFEEETKCR	181
Db	121	RSSHPHHRGEFSVCDSVSWVGKTTATDICKGEVWVLGEVNNINSVEKOFEEETKCR	180
Oy	182	DPNPVDSGCRGIDSKHNMNSYCTTHTTFVKALIMDKQAAMREIRIDFACVCLSRKAVRR	241
Db	181	DPNPVDSGCRGIDSKHNMNSYCTTHTTFVKALIMDKQAAMREIRIDFACVCLSRKAVRR	240
Oy	242	A 242	
Db	241	A 241	
RESULT 11			
ABBO4994			
ID	ABBO4994	standard; Protein; 241 AA.	
AC	ABBO4994		
XX			
DT	19-MAR-2002	(first entry)	
XX			
DE		Human beta nerve growth factor protein.	
XX			
KW		Human: nerve growth factor 2; beta nerve growth factor; NGF-2; NT-3;	
KW		neurotrophin-3; nervous system growth factor; neuronal atrophy;	
KW		aging; brain; axonal growth; neuron; neurotrophic; neuroprotective;	
XX		anti-aging; cholinergic neuron growth stimulator; gene therapy.	
OS		Homo sapiens.	
XX			
PN	US2001043920-A1.		
XX			
PD	22-NOV-2001.		
XX			
PE	05-DEC-2000; 2000US-0730790.		
XX			
PR	15-APR-1998; 98US-0060543.		
XX			
XX	(TUSZ/) TUSZYNSKI M H.		
PA	(BLES/) BLESCH A.		
XX			
PI	Tuszyński MH, Blesch A;		
XX			
DR	WPI: 2002-105567/14.		
DR	N-PSDB: ABA92503.		
XX			
PT	Ameliorating neuronal atrophy and loss of accompanying normal aging		
PT	comprises delivering a transgene encoding a growth factor to a		
XX	mammalian brain to stimulate axon growth in cholinergic neurons		
PS	Disclosure: Fig 6 1-2; 18pp; English.		
XX			
CC	The present invention describes a method for ameliorating neuronal		
CC	atrophy and loss of accompanying normal aging in the mammalian brain.		
CC	The method comprises delivering a growth factor (GF)-encoding transgene		
CC	to prespecified delivery sites in the brain, so that the encoded GF is		
CC	expressed in the brain and stimulates axonal growth in targeted		
CC	GF-responsive neurons. The growth factor has neurotrophic, neuroprotective		
CC	and anti-aging activities, and can be used as a cholinergic neuron		
CC	growth stimulator and in gene therapy. The method is used to		
CC	ameliorating neuronal atrophy and loss of accompanying normal aging, in		
CC	the human brain. The present sequence represents human beta nerve growth		
CC	factor, which is given in the exemplification of the present invention.		
XX			
SO	Sequence 241 AA;		
Query Match	99.58; Score 1270; DB 23; Length 241;		
Best Local Similarity	100.0%; Pired. No. 1.3e-134;		
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;			
Oy	2	MSMLPFTLTITFLVIGIOAEPSHESVNPAGHTTPQVHWTKLOHSLDTALRRASAPAAATA 61	
Db	1	MSMLPFTLTITFLVIGIOAEPSHESVNPAGHTTPQVHWTKLOHSLDTALRRASAPAAATA 60	

Oy	62	ARVACOTNITIVDPRLPFKKRRLRSRVLESTQPREADDTODLDEVEGGAAPFNTRHSK	121
Dd	61		120
Oy	122	RSSSHPIFRHGFEFSCDVSVMVGKTTATDIKGKEVMVLGEVINNSVFKEYFETKCR	181
Dd	121	RSSSHPIFRHGFEFSCDVSVMVGKTTATDIKGKEVMVLGEVINNSVFKEYFETKCR	180
Oy	182	DENPVDSGCRCIDSKHMNSYCTTHTPEVKALTMGDKQAAMRFIRIDPACVCYLAKAVRR	241
Dd	181	DENPVDSGCRCIDSKHMNSYCTTHTPEVKALTMGDKQAAMRFIRIDPACVCYLAKAVRR	240
Oy	242	A 242	
Dd	241	A 241	
 RESULT 12 AAP40038 ID AAP40038 standard; Protein: 245 AA. XX XX AAP40038; XX XX XX 25-JAN-1992 (first entry) XX XX Sequence encoded by portion of human beta-nerve growth factor DE (NGF) chromosomal gene which includes an exon. XX XX Nerve damage; therapy. XX XX Homo sapiens. XX EP121338-A. XX XX 10-OCT-1984. XX PD XX XX 02-MAR-1984; 84EP-0301377. XX PR XX 03-MAR-1983; 83US-0471962. XX PA XX (GETH) GENENTECH INC. XX PI XX Gray AM, Ullrich A; XX XX WPI: 1984-251909/41. DR N-PSDB; AAN40033. XX XX Human beta-nerve growth factor free from other proteins - obtd. PT by recombinant DNA techniques for treating nerve damage XX XX Example; Fig 5; 42pp; English. XX XX The inventors claim human beta-nerve growth factor (NGF) free from CC other proteolins of human origin. Also claimed are the DNA sequence CC encoding human beta-NGF operably linked with a DNA sequence capable CC of effecting its expression in a recombinant host cell; a replicable CC expression vector contg. the DNA; and host cells transformed with CC the vector. The plasmid claimed is plasmid ph-beta-NGF trip I. Using CC the plasmid, larger amounts of pure beta-NGF are obtainable than by CC extn. of natural materials, see e.g. Ep--2139. XX XX SQ Sequence 245 AA;			
Oy	Query Match	99.5%; Score 1270; DB 5; Length 245;	
Dd	Best Local Similarity	100.0%; Pred. No. 1,4e-134;	
Oy	Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;		
Dd	2 MSMLTYTLITATLGLIOAEPHSESNVPAGHTIPGYHWTKLOHSLDLTALRRARSAPAATA 61		
Oy	5 MSMLTYTLITATLGLIOAEPHSESNVPAGHTIPGYHWTKLOHSLDLTALRRARSAPAATA 64		
Oy	62 ARVACOTNITIVDPRLPFKKRRLRSRVLESTQPREADDTODLDEVEGGAAPFNTRHSK 121		

```
|||||
Db 65 ARVAGQTNITVDPRLEFKRRRLRSRVLFSQPPREADDTODLDFEVGGAAPFNTHRSK 124
OY 122 RSSHPITRHGEFSCDSVSWVGDKTATDICKREVAVLGEVNNNSVFQYFEETKCR 181
Db 125 RSSHPITRHGEFSCDSVSWVGDKTATDICKREVAVLGEVNNNSVFQYFEETKCR 184
OY 182 DPNPVDSCRCGIDSKHMNSYCTTHTTFVKALTMDSKQAAMRFIRIDTACVCLSKAVRR 241
Db 185 DPNPVDSCRCGIDSKHMNSYCTTHTTFVKALTMDSKQAAMRFIRIDTACVCLSKAVRR 244
OY 242 A 242
Db 245 A 245

RESULT 13
AAR45241
ID AAR45241 standard; Protein: 307 AA.
AC AAR45241;
XX
XX 20-JUN-1994 (first entry)
DE Human pre-pro nerve growth factor.
XX
XX Mature; beta-nerve growth factor; pre-pro portion;
XX expression; NGF; hNGF; treatment; Alzheimer's Disease.
OS Homo sapiens.
FH Key Location/Qualifiers
FT Peptide 1..187
FT Peptide /note="signal peptide"
FT Peptide 188..307
FT Peptide /note="mature peptide"

US5272063-A.
XX
XX 21-DEC-1993.
XX
XX 20-JUN-1989; 89US-0383118.
XX
XX 22-NOV-1988; 88US-0274878.
XX 20-JUL-1989; 89US-0383118.
XX
XX (SYNT ) SYNTEX USA INC.
XX
XX Baecker PA, Barnett JW, Burszlyn-Petlegrew H, Chan HW, Nguyen BT,
XX Ward C;
XX
XX WPI: 1993-413401/51.
XX N-PSDB: AA054283.
XX
XX Prodn. of active mature human beta-nerve growth factor in insect
XX cells - using baculovirus expression system, and potential use of
XX recombinant hNGF in treatment of Alzheimer's disease
XX
XX Disclosure: Fig 1; 23pp; English.
XX
XX The sequence is that of human pre-pro nerve growth factor
XX which was used in a method of producing biologically active
XX mature human beta-nerve growth factor in insect cells.
XX
XX Sequence 307 AA:
SQ
Query Match 99.2%; Score 1267; DB 14; Length 307;
Best Local Similarity 99.6%; Pred. No. 4.2e-134;
Matches 240; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
OY 2 MSMLFYTLLTAFLIGIOAEPHSESNVPAGHTTPOVHWITLQNSLDLALRRASAPAAATA 61
Db 67 MSMLFYTLLTAFLIGIOAEPHSESNVPAGHTTPOVHWITLQNSLDLALRRASAPAAATA 126
```

```
OY 62 ARVAGQTNITVDPRLEFKRRRLRSRVLFSQPPREADDTODLDFEVGGAAPFNTHRSK 121
Db 127 ARVAGQTNITVDPRLEFKRRRLRSRVLFSQPPREADDTODLDFEVGGAAPFNTHRSK 186
OY 122 RSSHPITRHGEFSCDSVSWVGDKTATDICKREVAVLGEVNNNSVFQYFEETKCR 181
Db 187 RSSHPITRHGEFSCDSVSWVGDKTATDICKREVAVLGEVNNNSVFQYFEETKCR 246
OY 182 DPNPVDSCRCGIDSKHMNSYCTTHTTFVKALTMDSKQAAMRFIRIDTACVCLSKAVRR 241
Db 247 DPNPVDSCRCGIDSKHMNSYCTTHTTFVKALTMDSKQAAMRFIRIDTACVCLSKAVRR 306
OY 242 A 242
Db 307 A 307

RESULT 14
AAB67865
ID AAB67865 standard; Protein: 241 AA.
AC AAB67865;
XX
XX 29-JUN-2001 (first entry)
DE Amino acid sequence of a human polypeptide designated PTMA-8.
XX
XX PTMA: Immune deficiency; infection; autoimmune disorder; wound closure;
XX connective tissue disease; multiple sclerosis; rheumatoid arthritis;
XX systemic lupus erythematosus; autoimmune pulmonary inflammation; ulcer;
XX Guillain-Barre syndrome; autoimmune thyroiditis; myasthenia gravis;
XX insulin dependent diabetes mellitus; graft-versus-host disease;
XX autoimmune inflammatory eye disease; gut protection; gut regeneration;
XX fibrosis; reperfusion injury; systemic cytokine damage.
XX
XX Homo sapiens.
XX
XX WO200123572-A2.
XX
XX 05-APR-2001.
XX
XX 29-SEP-2000; 2000WO-US41035.
XX
XX 30-SEP-1999; 99US-0156745.
XX 06-OCT-1999; 99US-0158942.
XX 13-OCT-1999; 99US-0159248.
XX 06-DEC-1999; 99US-0169344.
XX 29-JUN-2000; 2000US-0215048.
XX
XX (CURA-) CURAGEN CORP.
XX
XX Prayaga SK, Vernet C, Shimkets RA, Burgess C, Spylek KA;
XX
XX WPI: 2001-273512/28.
XX N-PSDB: AAF80462.
XX
XX Novel polypeptides termed PTMAX, and nucleic acids encoding PTMAX,
XX useful for detecting and treating diseases caused immune deficiencies -
XX
XX Claim 1; Page 20-22; 128pp; English.
XX
XX The present sequence represents a PTMA-8 (not defined) polypeptide. The
XX sequence is derived from clone AL049825. The polypeptide is 26958.5
XX daltons. PTMA polynucleotides and polypeptides are used in the
XX manufacture of a medicament for treating a syndrome associated with a
XX human disease, the disease selected from a pathology associated with a
XX PTMA. They may be useful in the treatment of various immune deficiencies
XX and disorders. These immune deficiencies may be genetic or caused by
XX viral as well as bacterial or fungal infections or may result from
XX autoimmune disorders. Autoimmune disorders which may be treated using
XX PTMA include, for example, connective tissue disease, multiple sclerosis,
XX systemic lupus erythematosus, rheumatoid arthritis, autoimmune pulmonary
```

CC inflammation, Guillain-Barre syndrome, autoimmune thyroiditis, insulin
 CC dependent diabetes mellitus, myasthenia gravis, graft-versus-host disease
 CC and autoimmune inflammatory eye disease. Additionally PTMA may also be
 CC useful to promote better or faster closure of non-healing wounds,
 CC including pressure ulcers, ulcers associated with vascular insufficiency,
 CC surgical and traumatic wounds. Furthermore, PTMA may also be useful for
 CC gut protection or regeneration and treatment of lung or liver fibrosis,
 CC reperfusion injury in various tissue, and conditions resulting from
 CC systemic cytokine damage.

CC Sequence 241 AA;

Query Match 99.1%; Score 1266; DB 22; Length 241;
 Best Local Similarity 99.6%; Pred. No. 3.8e-134;
 Matches 240; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 MSMLFYTLITAFLLIGIOAEPSHESNPAGHTIPQVHNTKLOHSIDTALRRARSAPAAIA 61
 Db 1 MSMLFYTLITAFLLIGIOAEPSHESNPAGHTIPQAHMTKLOHSIDTALRRARSAPAAIA 60

QY 62 ARVAGOTRNTITVDPRLFKRRRLRSRVLFTSTOPPREADTODLDFEVGGAAPFNRTTHRSK 121
 Db 61 ARVAGOTRNTITVDPRLFKRRRLRSRVLFTSTOPPREADTODLDFEVGGAAPFNRTTHRSK 120

QY 122 RSSSHPIFHGGEFSVCSVSWVGDKTTATDIDKGEVWVLGEVININSVFQYFEETKCR 181
 Db 121 RSSSHPIFHGGEFSVCSVSWVGDKTTATDIDKGEVWVLGEVININSVFQYFEETKCR 180

QY 182 DPNPVDGCGRGIDSKHNSYCTTHTFEVKALTMGKQAAWFRIRIDPACVLSRKAVRR 241
 Db 181 DPNPVDGCGRGIDSKHNSYCTTHTFEVKALTMGKQAAWFRIRIDPACVLSRKAVRR 240

QY 242 A 242
 Db 241 A 241

RESULT 15
 AAR37799 standard; Protein; 307 AA.

AC AAR37799;
 DT 29-SEP-1993 (first entry)

DE Human NGF.
 KW Chimeric; human; prepro; NGF; brain-derived neurotrophic factor;
 KW BDNF; chimera; fusion; mouse; nerve growth factor; peripheral;
 KW central; precursor; nervous system.

OS Homo sapiens.
 FH Key Location/Qualifiers
 FT Region 1..187
 FT Protein /note= "Prepro region"
 FT 188..307
 FT /note= "Mature NGF"

PN MO9310150-A.
 PD 27-MAY-1993.
 PF 13-NOV-1992; 92MO-US09792.
 PR 14-NOV-1991; 91US-0792492.

PA (AMGE-) AMGEN.
 PA (REG-) REGENERON PHARM INC.
 PI Giles D, Hu SS, Ip N, Squinto SP, Yancopoulos GD;
 DR WPI; 1993-182492/22.

DR N-PSDB; AA042571.

XX Eukaryotic expression of neurotrophins - using prepro region of a
 PT different neurotrophin for more efficient post-translational
 PT processing
 XX Disclosure; Fig 4; 80pp; English.

XX This sequence represents human nerve growth factor (NGF). The protein
 CC encoded by this sequence promotes the development of the peripheral
 CC nervous system and also influences the development and maintenance of
 CC specific populations of neurons in the central nervous system. Two
 CC major transcripts from the NGF gene result in a "long" and "short" NGF
 CC prepropeptide. The "short" precursor contains a conventional signal
 CC sequence at the N-terminus which flanks the pro-region. The "long"
 CC precursor contains an additional "pro-region" at its N-terminal. No
 CC functional distinction has been elucidated between the "long" and
 CC "short" forms. Characteristics of NGF, such as isoelectric point and
 CC primary structure, are very similar to brain derived neurotrophic
 CC factor (BDNF). The NGF coding sequence may be used in the
 CC construction of a chimeric nucleic acid molecule to encode a prepro-
 CC NGF/BDNF chimera (see also AA042568-69).

SQ Sequence 307 AA;

Query Match 99.1%; Score 1266; DB 14; Length 307;
 Best Local Similarity 99.6%; Pred. No. 5.5e-134;
 Matches 240; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 MSMLFYTLITAFLLIGIOAEPSHESNPAGHTIPQVHNTKLOHSIDTALRRARSAPAAIA 61
 Db 67 MSMLFYTLITAFLLIGIOAEPSHESNPAGHTIPQVHNTKLOHSIDTALRRARSAPAAIA 126

QY 62 ARVAGOTRNTITVDPRLFKRRRLRSRVLFTSTOPPREADTODLDFEVGGAAPFNRTTHRSK 121
 Db 127 ARVAGOTRNTITVDPRLFKRRRLRSRVLFTSTOPPREADTODLDFEVGGAAPFNRTTHRSK 186

QY 122 RSSSHPIFHGGEFSVCSVSWVGDKTTATDIDKGEVWVLGEVININSVFQYFEETKCR 181
 Db 187 RSSSHPIFHGGEFSVCSVSWVGDKTTATDIDKGEVWVLGEVININSVFQYFEETKCR 246

QY 182 DPNPVDGCGRGIDSKHNSYCTTHTFEVKALTMGKQAAWFRIRIDPACVLSRKAVRR 241
 Db 247 DPNPVDGCGRGIDSKHNSYCTTHTFEVKALTMGKQAAWFRIRIDPACVLSRKAVRR 306

QY 242 A 242
 Db 307 A 307

Search completed: December 2, 2002, 15:08:37
 Job time : 50.2298 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 : Search time 19.2919 Seconds
(without alignments)
1205.921 Million cell updates/sec

Title: US-10-072-681-1

Perfect score: 1277

Sequence: 1 PMSMLFYTLITAFLLIGIAE.....FIRIDPACVCLSRKAVRRA 242

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Maximum Match 0%

Listing first 45 summaries

Database :

1: PIR-73:*
2: PIR1:*
3: PIR2:*
4: PIR3:*
5: PIR4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1270	99.5	286	1 NGHUBM	nerve growth facto
2	1124	88.0	229	2 I46614	nerve growth facto
3	1107	86.7	245	2 I56570	beta-nerve growth
4	1096	85.8	307	1 NGMSMG	nerve growth facto
5	1092	85.5	241	2 JI0097	nerve growth facto
6	1073	84.0	303	1 NGRTBA	nerve growth facto
7	788.5	61.7	243	2 A26311	nerve growth facto
8	773	60.5	235	2 S14481	nerve growth facto
9	675.5	52.9	243	2 I51193	nerve growth facto
10	658	51.5	125	2 A26312	nerve growth facto
11	649	50.8	246	2 A59218	nerve growth facto
12	484	37.9	117	2 S28161	nerve growth facto
13	481.5	37.7	194	2 I51709	nerve growth facto
14	481.5	37.7	257	2 C40304	neurotrophin-3 pre
15	472	37.0	258	2 S09155	neurotrophin-3 pre
16	471.5	36.9	257	2 I50400	neurotrophin-3 pre
17	471	36.9	282	2 A35781	hippocampus-derive
18	452.5	35.4	116	1 NGNXI	nerve growth facto
19	448.5	35.1	116	2 A58566	nerve growth facto
20	426	33.4	286	2 S50855	neurotrophin-6 - s
21	365	28.6	247	2 A40304	brain-derived neur
22	364	28.5	249	2 B40304	brain-derived neur
23	360	28.2	249	2 S12555	brain-derived neur
24	358.5	28.1	252	2 A30361	brain-derived neur
25	348.5	27.3	246	2 JC6183	brain-derived neur
26	343	26.9	236	2 JH0400	neurotrophin-4 pre
27	337.5	26.4	210	2 A42687	neurotrophin-4 pre
28	335	26.2	269	2 I51708	brain-derived neur
29	330.5	25.9	209	2 B42687	neurotrophin-4 pre

30	323.5	25.3	114	2 I84765	brain-derived neur
31	316.5	24.8	114	2 I50606	brain-derived neur
32	307.5	24.1	2	2 I51599	brain-derived neur
33	84.5	6.6	5126	2 S54050	ryanodine receptor
34	83	6.5	397	2 S52783	aspartic proteinase
35	80	6.3	835	2 C97322	probable alpha-ara
36	79.5	6.2	749	2 E86774	hypothetical prote
37	79	6.2	807	2 A53225	ecdysone-induced p
38	79	6.2	1095	2 T24061	hypothetical prote
39	78.5	6.1	513	2 A12555	hypothetical prote
40	78.5	6.1	701	2 T52384	hypothetical prote
41	78.5	6.1	742	2 T43520	condensin complex
42	78.5	6.1	1076	2 D82083	cardenol-1-phosphat
43	78.5	6.1	1084	2 B64088	hemoglobin-binding
44	78.5	6.1	1609	2 E87243	probable cation tr
45	78	6.1	323	2 S69647	hypothetical prote

ALIGNMENTS

RESULT 1

NGHUBM

nerve growth factor beta chain precursor - human (fragment)

C:Species: Homo sapiens (man)

C:Date: 19-Feb-1984 #sequence_revision 19-Feb-1984 #text_change 18-Jun-1999

C:Accession: A01399; S10253

R:Ullrich, A.; Gray, A.; Berman, C.; Dull, T.J.

Nature 303, 821-825, 1983

A:Title: Human beta-nerve growth factor gene sequence highly homologous to that of mo

A:Reference number: A93305; MUID:93244969; PMID:6688123

A:Accession: A01399

A:Molecule type: DNA

A:Residues: 1-286 <DUL>

R:Borsani, G.; Pizzuti, A.; Ruggeri, E.I.; Falini, A.; Silani, V.; Sidel, A.; Scarla

Nucleic Acids Res. 18, 4020, 1990

A:Title: cDNA sequence of human beta-NGF.

A:Reference number: S10253; MUID:90326556; PMID:2374737

A:Accession: S10253

A:Status: translation not shown

A:Molecule type: mRNA

A:Residues: 46-286 <BOR>

A:Cross-references: EMBL:X55599; MID:929476; PIDN:CA36832.1; PID:929477

C:Comment: Nerve growth factor is found in submaxillary gland in large quantities and

nic sensory ganglia in vivo and in vitro and to increase cellular neurotubule levels

C:Genetics:

A:Gene: GDB:NGFB

A:Cross-references: GDB:120233; OMIM:162030

A:Map position: 1p13.1-1p13.1

A:Insertions: 41/3

C:Complex: nerve growth factor is composed of two alpha chains, two beta chains, and

C:Superfamily: nerve growth factor beta chain

C:Keywords: glycoprotein; growth factor; submandibular gland

F:1-166/Domain: signal sequence and propeptide (fragment) #status predicted <Sig>

F:167-284/Product: nerve growth factor beta chain #status predicted <Mat>

F:26-114,159,211/Binding site: carbohydrate (Aan) (covalent) #status predicted

F:181-246,224-274,234-276/Disulfide bonds: #status predicted

Query Match 99.5%; Score 1270; DB 1; Length 286;

Best Local Similarity 100.0%; Pred. No. 6, 2e-112;

Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	2	MMSMLFYTLITAFLLIGIAEPHSESNVPAAGHTIPVHMTKLQHSIDTALRRASAPAAIA	61
DB	46	MMSMLFYTLITAFLLIGIAEPHSESNVPAAGHTIPVHMTKLQHSIDTALRRASAPAAIA	105
QY	62	ARVAGQRRNTVDRPLFKRLRSRVLFSQPPREADTDLDPEVGGAAPFNRTRSK	121
DB	106	ARVAGQRRNTVDRPLFKRLRSRVLFSQPPREADTDLDPEVGGAAPFNRTRSK	165
QY	122	RSSHPHFHRCFVSVCVSVMGDKTTATDICKREVWVLGEVNIINNSVFQYFFETKCR	181
DB	166	RSSHPHFHRCFVSVCVSVMGDKTTATDICKREVWVLGEVNIINNSVFQYFFETKCR	225

```
OY 182 DPNVDSCRCIDSKHNSYCTTHTFEVKALITMDGKQAAAFRIRIDPACVLSRKAVRR 241
|||
Db 226 DPNVDSCRCIDSKHNSYCTTHTFEVKALITMDGKQAAAFRIRIDPACVLSRKAVRR 285

OY 242 A 242
|
Db 286 A 286

RESULT 2
146614
nerve growth factor B - pig (fragment)
C:Species: Sus scrofa domestica (domestic pig)
C>Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999
C:Accession: I46614
R:LabID-Monsals, Y.; Mellink, C.; Verle, M.; Gellin, J.
Cyto genet. Cell Genet. 67, 120-125, 1994
A:Title: A new marker (NGFB) on pig chromosome 4, isolated by using consensus sequence
A:Reference number: I46614; MUID:94313891; PMID:8039422
A:Accession: I46614
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-229 <LANH>
A:Cross-references: GB:L31898; NID:9476732; PIDN:AAA21301.1; PID:9533771
C:Genetics:
A:Gene: NGFB
C:Superfamily: nerve growth factor beta chain

Query Match 88.0%; Score 1124; DB 2; Length 229;
Best Local Similarity 92.6%; Pred. No. 2.7e-98;
Matches 212; Conservative 4; Mismatches 13; Indels 0; Gaps 0;

OY 14 LIGIOAEHSESNVPAHHTIPQVHWTKLQHSIDTALRRARSAAPAAIAARVAGOTRNTIV 73
|||
Db 1 LIGIOAEPTESNVPAHAIIPAAMHTKLQHSIDTALRRARSAAPAGANSARVAGOTRNTIV 60

OY 74 DPLFKRRRLRSRVLFTSTOPPREADTODLDFEVGAAPFNRTHRSKRSSHPHFHNGE 133
|||
Db 61 DKLFKRRRLRSRVLFTSTOPPREADTODLDFEVGAAPFNRTHRSKRSSHPHFHNGE 120

OY 134 FSVCSVSVMVDKTTATDIDKKEVWVGEVINNSVFOQYFEFKCRPNVVDSCRCRI 193
|||
Db 121 FSVCSVSVMVDKTTATDIDKKEVWVGEVINNSVFOQYFEFKCRPNVVDSCRCRI 180

OY 194 DSKHNSYCTTHTFEVKALITMDGKQAAAFRIRIDPACVLSRKAVRR 242
|||
Db 181 DSKHNSYCTTHTFEVKALITMDGKQAAAFRIRIDPACVLSRKAVRR 229

RESULT 3
156570
beta-nerve growth factor - rat (fragment)
C:Species: Rattus norvegicus (Norway rat)
C>Date: 26-Jul-1996 #sequence_revision 26-Jul-1996 #text_change 16-Jul-1999
C:Accession: I56570
R:Whittemore, S.R.; Friedman, P.L.; Larhammar, D.G.; Persson, H.; Gonzalez-Carvajal, M.;
J. Neurosci. Res. 20, 403-410, 1988
A:Title: Rat beta-nerve growth factor sequence and site of synthesis in the adult hippoc
A:Reference number: I56570; MUID:89937223; PMID:3184206
A:Accession: I56570
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-245 <RES>
A:Cross-references: GB:M36589; NID:9205691; PIDN:AAA1697.1; PID:9205692
C:Superfamily: nerve growth factor beta chain

Query Match 86.7%; Score 1107; DB 2; Length 245;
Best Local Similarity 85.8%; Pred. No. 1.2e-96;
Matches 206; Conservative 14; Mismatches 20; Indels 0; Gaps 0;

OY 2 MSMLFTLTITAFILGIOAEHSESNVPAHHTIPQVHWTKLQHSIDTALRRARSAAPAAIA 61
|||

OY 5 MSMLFTLTITAFILGIOAEPTDSNVEGDSVPEAHWTKLQHSIDTALRRARSAAPAEPIA 64
|||
OY 62 ARVAGOTRNTIVDPLFKRRRLRSRVLFTSTOPPREADTODLDFEVGAAPFNRTHRSK 121
|||
Db 65 ARVAGOTRNTIVDPLFKRRRLRSRVLFTSTOPPREADTODLDFEVGAAPFNRTHRSK 124

OY 122 RSSSHPTFHNGEFSVCSVSVMVDKTTATDIDKKEVWVGEVINNSVFOQYFEFKCR 181
|||
Db 125 RSSHPTFHNGEFSVCSVSVMVDKTTATDIDKKEVWVGEVINNSVFOQYFEFKCR 184

OY 182 DPNVDSCRCIDSKHNSYCTTHTFEVKALITMDGKQAAAFRIRIDPACVLSRKAVRR 241
|||
Db 185 APNPVESCRCIDSKHNSYCTTHTFEVKALITMDGKQAAAFRIRIDPACVLSRKAVRR 244

RESULT 4
NGMSWG
nerve growth factor beta chain precursor - mouse
C:Species: Mus musculus (house mouse)
C>Date: 30-Nov-1980 #sequence_revision 19-Feb-1984 #text_change 21-Jul-2000
C:Accession: A93301; A93305; A90366; I49689; I52891; A01400; I49690
R:Scott, J.; Selby, M.; Urdea, M.; Quiroga, M.; Bell, G.L.; Rutter, W.J.
Nature 302, 538-540, 1983
A:Title: Isolation and nucleotide sequence of a cDNA encoding the precursor of mouse
A:Reference number: A93301; MUID:83167516; PMID:6336309
A:Accession: A93301
A:Molecule type: mRNA
A:Residues: 1-307 <SCQ>
A:Cross-references: GB:V00836; NID:953364; PIDN:CAA24221.1; PID:953365
R:Ullrich, A.; Gray, A.; Berman, C.; Dull, T.J.
Nature 303, 821-825, 1983
A:Title: Human beta-nerve growth factor gene sequence highly homologous to that of mo
A:Reference number: A93305; MUID:83244969; PMID:6688123
A:Accession: A93305
A:Molecule type: mRNA
A:Residues: 1-307 <URL>
A:Cross-references: GB:K01759; NID:9200051; PIDN:AAA39820.1; PID:9387495
R:Angelletti, R.H.; Hermodson, M.A.; Bradshaw, R.A.
Biochemistry 12, 100-115, 1973
A:Title: Amino acid sequences of mouse 2.5S nerve growth factor. II. Isolation and ch
A:Accession: A90366; MUID:73075048; PMID:4566923
A:Molecule type: protein
A:Residues: 188-216, N, 218-305 <ANG>
R:Selby, M.J.; Edwards, R.; Sharp, F.; Rutter, W.J.
Mol. Cell. Biol. 7, 3057-3064, 1987
A:Title: Mouse nerve growth factor gene: Structure and expression.
A:Reference number: I49689; MUID:86038855; PMID:3670305
A:Accession: I49689
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-307 <RES>
A:Cross-references: GB:M17298; NID:9193493; PIDN:AAA37687.1; PID:9467311
R:Ullrich, A.; Gray, A.; Berman, C.H.; Coussens, L.; Dull, T.J.
Cold Spring Harb. Symp. Quant. Biol. 48, 435-442, 1983
A:Title: Sequence homology of human and mouse beta-NGF subunit genes.
A:Reference number: I52891; MUID:84205655; PMID:6327169
A:Accession: I52891
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-307 <RES>
A:Cross-references: GB:M14805; NID:9200053; PIDN:AAA39821.1; PID:9200054
C:Comment: The active molecule is a dimer of identical chains associated by noncovalent
C:Comment: Nerve growth factor is found in submaxillary gland in large quantities and
C:Comment: nic sensory ganglia in vivo and in vitro and to increase cellular neurotubule levels
C:Genetics:
A:Gene: NGFB
A:Introns: 21/2, 62/3
A:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor; homodimer
F:1-187/Domain: signal sequence and propeptide #status predicted <Sig>
F:188-305/Product: nerve growth factor beta chain #status experimental <Mat>
```


A:Molecule type: DNA
A:Residues: 1-257 <JON>
A:Cross-references: GB:K37763; NID:g189300; PIDN:AAA5953.1; PID:g189301
R:Kosenthal, A.; Goeddel, D.V.; Nguyen, T.; Lewis, M.; Smith, A.; Laramee, G.R.; Nikolic
Neuron 4, 767-773, 1990
A:Title: Primary structure and biological activity of a novel human neurotrophic factor.
A:Reference number: JH0141; MUID:90262727; PMID:2344409
A:Accession: JH0141
A:Molecule type: DNA
A:Residues: 1-257 <ROS>
R:Malsonpierre, P.C.; Le Beau, M.M.; Espinosa III, R.; Ip, N.Y.; Belluscio, L.; de la M
Genomics 10, 558-568, 1991
A:Title: Human and rat brain-derived neurotrophic factor and neurotrophin-3: gene structu
A:Reference number: A40304; MUID:91365361; PMID:1889806
A:Accession: C40304
A:Molecule type: DNA
A:Residues: 1-257 <MAI>
A:Cross-references: GB:M61180; NID:g189302; PIDN:AAA62231.1; PID:g189303
R:Kaisho, Y.; Yoshimura, K.; Nakahama, K.
FEBS Lett. 266, 187-191, 1990
A:Title: Cloning and expression of a cDNA encoding a novel human neurotrophic factor.
A:Reference number: S10719; MUID:90306351; PMID:2365067
A:Accession: S10719
A:Molecule type: mRNA
A:Residues: 1-257 <KAI>
A:Cross-references: GB:X53655; NID:g287794; PIDN:CAA37703.1; PID:g287795
R:Yancopoulos, G.D.; Malsonpierre, P.C.; Ip, N.Y.; Aldrich, T.H.; Belluscio, L.; Boulton
Cold Spring Harb. Symp. Quant. Biol. 55, 371-379, 1990
A:Title: Neurotrophic factors, their receptors, and the signal transduction pathways the
A:Reference number: A60536; MUID:9211157; PMID:1966766
A:Accession: C60536
A:Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 1-73, 'Q', 75-77, 'R', 79-108, 'T', 110-257 <YAN>
A:Gene: GDB:NTF3
A:Cross-references: GDB:125917; OMIM:162660
A:Map position: 12p13-12p13
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-18/Domain: signal sequence #status predicted <SIG>
F:19-138/Domain: propeptide #status predicted <PRO>
F:133-257/Product: neurotrophin-3 #status predicted <MAT>
F:131/Binding site: carbohydrate (Asn) (covalent) #status predicted
Query Match 37.7%; Score 481.5; DB 2; Length 257;
Best Local Similarity 40.7%; Pred. No. 1e-37;
Matches 107; Conservative 37; Mismatches 86; Indels 31; Gaps 6;

```

C:Species: Mus musculus (house mouse)
C>Date: 30-Jun-1992 #sequence_reviseon 30-Jun-1992 #text_change 16-Jul-1999
C:Accession: S09155; S51179
R:Hohn, A.; Leibrock, J.; Bailey, K.; Barde, Y.A.
Nature 344, 339-341, 1990
A>Title: Identification and characterization of a novel member of the nerve growth fa
A:Reference number: S09155; MUID:90190865; PMID:2314473
A:Accession: S09155
A>Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 1-258 <HOH>
A:Cross-references: GB:S53257; NID:g53451; PIDN:CAA37348.1; PID:g53452
R:Kolbeck, R.; Jungbluth, S.; Barde, Y.A.
Eur. J. Biochem. 225, 995-1003, 1994
A>Title: Characterisation of neurotrophin dimers and monomers.
A:Reference number: S51179; MUID:95045576; PMID:7957235
A:Accession: S51179
A>Status: preliminary
A:Molecule type: protein
A:Residues: 140-152 <KOL>
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-18/Domains: signal sequence #status predicted <SIG>
F:140-258/Product: neurotrophin-3 #status predicted <MAT>
F:131/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query March          37.0%; Score 472; DB 2; Length 258;
Best Local Similarity 41.9%; Pred. No. 8e-37;
Matches 108; Conservative 33; Mismatches 97; Indels 20; Gaps 5;

OY      2 MSMLFFVTLTFLFGIQAPHSNSVPAGH---TIPOVHWTKLQHSIDLTAI----- 49
       ||||| :||| |::| :||| :||| :||| :||| :||| :||| :||| :|||
Db      1 MSILFFVFLLVRGIDQNSMDGRSLPEDLSNLIIKLQADILKNKLKSQAVDKENYQ   60
OY      50 -----RRARSAPAALIAARVAGQTNRITVDPLRFKKRLRSRPVLFTGPPEADTDGL 104
       ||||| :||| |::| :||| :||| :||| :||| :||| :||| :|||
Db      61 STLPRKAERPREDEGEATRSFEOPMIATDTELLROQRNRSPTVLSDSTPLEPPYLIR 120
OY      105 DEEVGAAPFNNTH-RSKRSSHPILFHNGEFSVCDSVWVWDKTTATDINKKEYMVLGE 163
       ||||| :||| |::| :||| :||| :||| :||| :||| :||| :|||
Db      121 EDYVNPVVANNTSPRRKRRIAEHK-SHRGEIVCSSESIMLYDKSALDIRHOVTYLG E 179
OY      164 VINNSVEFKQYFEETKCRDPNVPDSCRGIDSKHNNSYCTTHTFVKALTMD-GQAAMR 222
       ||||| :||| |::| :||| :||| :||| :||| :||| :||| :|||
Db      180 ITGMSPVQGYEFELRCKEARPVKKGCGRIDDKHMNSOCKTSQTYVALRTSENKLVGWR 239
OY      223 FIRIDTACVCLSRKAVR 240
       ||||| :||| |::| :||| :||| :||| :||| :||| :||| :|||
Db      240 WIRIDTSCVCLSRKRIGR 257

Search completed: December 2, 2002, 15:13:57
Job time : 20.2919 secs
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RESULT 15
S09155
neurotrophin-3 precursor - mouse

GenCore version 5.1.3
Copyright (c) 1993 - 2002 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 ; Search time 9.92966 Seconds
(without alignments)
1010.837 Million cell updates/sec

Title: US-10-072-681-1
Perfect score: 1277
Sequence: 1 PMSMLFYTILTAFLIGTQAE.....FIRIDRCVCVLSKRAVRA 242

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1270	99.5	241	1	NGF_HUMAN
2	1124	88.0	229	1	NGF_PIG
3	1107	86.7	241	1	NGF_RAT
4	1106	86.6	231	1	NGF_BOVIN
5	1096	85.8	241	1	NGF_MOUSE
6	1092	85.5	241	1	NGF_MOUSE
7	1073	84.0	241	1	NGF_PRAVA
8	788.5	61.7	243	1	NGF_CHICK
9	773	60.5	231	1	NGF_XENLA
10	675.5	52.9	243	1	NGF_BUNMU
11	484	37.9	117	1	NGF_DARR
12	481.5	37.7	194	1	NGF_XIPMA
13	481.5	37.7	257	1	NGF_HUMAN
14	474	37.1	260	1	NT3_XENLA
15	473.5	37.1	257	1	NT3_FELCA
16	472	37.0	258	1	NT3_MOUSE
17	471.5	36.9	257	1	NT3_CHICK
18	471	36.9	258	1	NT3_RAT
19	459.5	36.0	233	1	NT7_BRARE
20	449.5	35.2	116	1	NGF_NAJNA
21	445.5	34.9	116	1	NGF_NAJNA
22	372.5	29.2	140	1	NT7_CYPCA
23	365	28.6	247	1	BDNF_HUMAN
24	364	28.5	249	1	BDNF_RAT
25	363	28.4	255	1	BDNF_CAVPO
26	362	28.3	247	1	BDNF_PROLO
27	361	28.3	247	1	BDNF_URSAR
28	361	28.3	247	1	BDNF_URSAR
29	360	28.2	249	1	BDNF_MOUSE
30	358.5	28.1	252	1	BDNF_PIG
31	350	27.4	247	1	BDNF_FELCA
32	348.5	27.3	248	1	BDNF_BOVIN
33	347.5	27.2	246	1	BDNF_CHICK

ALIGNMENTS

RESULT 1	ID	NGF_HUMAN	STANDARD:	PRT:	241 AA.
AC	P01138:				
DT	21-JUL-1986 (Rel. 01, Created)				
DT	01-JAN-1990 (Rel. 13, Last sequence update)				
DT	16-OCT-2001 (Rel. 40, Last annotation update)				
DE	Beta-nerve growth factor precursor (Beta-NGF).				
GN	NGFB.				
OS	Homo sapiens (Human).				
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;				
OC	Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.				
OX	NCBI_Taxid=9606;				
RN	[1]				
RP	SEQUENCE FROM N.A.				
RC	MEDLINE=83244969; PubMed=6688123;				
RX	Ullrich A., Gray A., Berman C., Dull T.J.;				
RA	"Human beta-nerve growth factor gene sequence highly homologous to				
RT	that of mouse.";				
RL	Nature 303:821-825(1983).				
RN	[2]				
RP	SEQUENCE FROM N.A.				
RC	MEDLINE=84206565; PubMed=6327169;				
RX	Ullrich A., Gray A., Berman C., Dull T.J.;				
RA	"Sequence homology of human and mouse beta-NGF subunit genes.";				
RT	Cold Spring Harb. Symp. Quant. Biol. 48:435-442(1983).				
RN	[3]				
RP	SEQUENCE FROM N.A.				
RC	MEDLINE=90326556; PubMed=2374737;				
RX	Borsani G., Pizzuti A., Ruggeri E.I., Fallini A., Silani V.;				
RA	"CDNA sequence of human beta-NGF.";				
RT	Nucleic Acids Res. 18:4020-4020(1990).				
RN	[4]				
RP	SEQUENCE OF 178-219 FROM N.A.				
RC	MEDLINE=91222573; PubMed=2025430;				
RX	Hellmoeck F., Ibanez C.F., Persson H.;				
RA	"Evolutionary studies of the nerve growth factor family reveal a				
RT	novel member abundantly expressed in Xenopus ovary.";				
RL	Neuron 6:845-858(1991).				
CC	-1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND				
CC	MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT				
CC	STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND				
CC	EMBRYONIC SENSORY NEURONS.				
CC	-1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.				
CC	-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.				
CC	THIS SWISS-PROT entry is copyright. It is produced through a collaboration				
CC	between the Swiss Institute of Bioinformatics and the EMBL outstation -				
CC	the European Bioinformatics Institute. There are no restrictions on its				
CC	use by non-profit institutions as long as its content is in no way				
CC	modified and this statement is not removed. Usage by and for commercial				
CC	entities requires a license agreement (See http://www.isb-sib.ch/announce/				
CC	or send an email to license@isb-sib.ch).				

34	343	26.9	236	1	NT4_XENLA	P24727 xenopus lae
35	338.5	26.5	270	1	BDNF_CYPCA	O90332 cyprinus ca
36	337.5	26.4	210	1	NT5_HUMAN	P34130 homo sapien
37	335	26.2	269	1	BDNF_XIPMA	O02193 xiphophorus
38	330.5	25.9	209	1	NT5_RAT	P34131 ratius norv
39	323.5	25.3	114	1	BDNF_MACMU	O06225 macaca mula
40	307.5	24.1	114	1	BDNF_XENLA	P25432 xenopus lae
41	230	18.0	257	1	NT6B_HUMAN	P34133 homo sapien
42	227	17.8	257	1	NT6A_HUMAN	P34132 homo sapien
43	225	17.6	186	1	NT6G_HUMAN	P34134 homo sapien
44	190	14.9	42	1	NGF_VIPLE	P25428 vipera lebe
45	136	10.6	154	1	NT3_CEREL	O95150 cervus elap


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CC EMBL: VO1511; CAA24755.1;
CC EMBL: M21062; AAA59931.1;
CC EMBL: X52599; CAA36832.1;
CC PIR: A01399; NGHUBM.
CC PIR: S10253; S10253.
CC HSSP: P01139; 1BET.
CC Genew: HGNC:7808; NGFB.
CC MIM: 162030;
CC InterPro: IPR002072; NGF.
CC Pfam: PF00243; NGF_1.
CC PRINTS: PR00268; NGF.
CC PRODOM: PD002052; NGF_1.
CC SMART: SM00140; NGF_1.
CC PROSITE: PS00248; NGF_1; 1.
CC PROSITE: PS50270; NGF_2; 1.
CC Growth factor; Signal.
CC Growth factor; Signal.
CC SIGNAL 1 18
CC PROPEP 19 121
CC CHAIN 122 241
CC DISULFID 136 201
CC DISULFID 179 229
CC DISULFID 189 231
CC CARBOHYD 69 69
CC CARBOHYD 114 114
CC SEQUENCE 241 AA; 26987 MW; CP1DB4DC6B736BOF CRC64;

Query Match 99.5%; Score 1270; DB 1; Length 241;
Best Local Similarity 100.0%; Pred. No. 3e-113;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 MSMLFYTLITFLIGIOAEHPSESNVPAGHTIPQVHWTKLOHSIDTLARRASAPAAIA 61
DB 1 MSMLFYTLITFLIGIOAEHPSESNVPAGHTIPQVHWTKLOHSIDTLARRASAPAAIA 60

OY 62 ARVAGOTNTITVDPRLFFKRRRLSPRVLESTOPPREADTODLDFEVGAAPFNTHRSK 121
DB 61 ARVAGOTNTITVDPRLFFKRRRLSPRVLESTOPPREADTODLDFEVGAAPFNTHRSK 120

OY 122 RSSHPHFHGRGEFVSVDVSVWVGDKTTATDIDIKGEVWVLGEVININSVFQYFEETCR 181
DB 121 RSSHPHFHGRGEFVSVDVSVWVGDKTTATDIDIKGEVWVLGEVININSVFQYFEETCR 180

OY 132 DPNPVDSCRGIDSKHMSYCTTHTTFVKALTMDSKQAAAMRFIRIDTACVLSKAVRA 241
DB 181 DPNPVDSCRGIDSKHMSYCTTHTTFVKALTMDSKQAAAMRFIRIDTACVLSKAVRA 240

OY 242 A 242
DB 241 A 241

RESULT 2
NGF_PIG STANDARD: PRT: 229 AA.
ID NGF_PIG
AC Q29074;
DT 01-NOV-1997 (Rel. 35; Created)
DT 01-NOV-1997 (Rel. 35; Last sequence update)
DT 01-NOV-1997 (Rel. 35; Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF) (Fragment).
GN NGFB.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.
NCBI_TaxID=9823;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Large white; TISSUE=Blood;
RA MEDLINE=94313891; PubMed=8039422;
RX Labib-Mansals Y., Mellink C., Yertle M., Gellin J.;
RT "A new marker (NGFB) on pig chromosome 4, isolated by using a
RL cytogenet. Cell Genet. 67:120-125(1994).

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CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
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CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC or send an email to license@isb-sib.ch).
CC EMBL: L31898; AAA21301.1;
CC HSSP: P01139; 1BET.
CC InterPro: IPR002072; NGF.
CC Pfam: PF00243; NGF_1.
CC PRODOM: PD002052; NGF_1.
CC SMART: SM00140; NGF_1.
CC PROSITE: PS00248; NGF_1; 1.
CC PROSITE: PS50270; NGF_2; 1.
CC Growth factor; Signal.
CC Growth factor; Signal.
CC NON_TER 1 1
CC SIGNAL <1 6
CC PROPEP 7 109
CC CHAIN 110 229
CC DISULFID 124 189
CC DISULFID 167 217
CC DISULFID 177 219
CC CARBOHYD 57 57
CC CARBOHYD 102 102
CC CARBOHYD 154 154
CC SEQUENCE 229 AA; 25275 MW; FE8890771CBA3189 CRC64;

Query Match 88.0%; Score 1124; DB 1; Length 229;
Best Local Similarity 92.6%; Pred. No. 2e-99;
Matches 212; Conservative 4; Mismatches 13; Indels 0; Gaps 0;

OY 14 LIGIOAEHPSESNVPAGHTIPQVHWTKLOHSIDTLARRASAPAAIAARVAGOTNTITV 73
DB 1 LIGIOAEHPSESNVPAGHTIPQVHWTKLOHSIDTLARRASAPAAIAARVAGOTNTITV 60

OY 74 DPLFFKRRRLSPRVLESTOPPREADTODLDFEVGAAPFNTHRSKSSHPHFHGE 133
DB 61 DPLFFKRRRLSPRVLESTOPPREADTODLDFEVGAAPFNTHRSKSSHPHFHGE 120

OY 134 FSVCDVSVWVGDKTTATDIDIKGEVWVLGEVININSVFQYFEETCRDPNPVDSGCRGI 193
DB 121 FSVCDVSVWVGDKTTATDIDIKGEVWVLGEVININSVFQYFEETCRDPNPVDSGCRGI 180

OY 194 DSKHMSYCTTHTTFVKALTMDSKQAAAMRFIRIDTACVLSKAVRA 242
DB 181 DSKHMSYCTTHTTFVKALTMDSKQAAAMRFIRIDTACVLSKAVRA 229

RESULT 3
NGF_RAT STANDARD: PRT: 241 AA.
ID NGF_RAT
AC P25427;
DT 01-MAY-1992 (Rel. 22; Created)
DT 01-FEB-1996 (Rel. 33; Last sequence update)
DT 01-NOV-1997 (Rel. 35; Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=89037223; PubMed=3184206;

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RA Whittemore S.R., Friedman P.L., Larhammar D.G., Persson H.,
RA Gonzalez-Carvajal M., Holets V.R.;
RT "Rat beta-nerve growth factor sequence and site of synthesis in the
RT adult hippocampus.";
RL J. Neurosci. Res. 20:403-410(1988).
RN [2]
RP SEQUENCE OF 178-219 FROM N.A.
RC STRAIN-Sprague-Dawley; TISSUE-Liver;
RX MEDLINE-91222573; PubMed-2025430;
RA Hallboeek F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991)
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NEUROUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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DR EMBL; M36589; AAA41697.1; ALT_INIT.
DR HSSP; P01139; 1BET.
DR InterPro; IPRO02072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PRO0268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 121
FT CHAIN 122 241
FT DISULFID 136 201
FT DISULFID 179 229
FT DISULFID 189 231
FT CARBOHYD 69 69
FT CARBOHYD 114 114
FT CARBOHYD 166 166
SQ SEQUENCE 241 AA; 27009 MW; 665F42371563213D CRC64;

Query Match 86.7%; Score 1107; DB 1; Length 241;
Best Local Similarity 85.8%; Pred. No. 8.7e-98;
Matches 206; Conservative 14; Mismatches 20; Indels 0; Gaps 0;

OY 2 MSMLFTLTATLFLIGIOAEPHSESNVPAGHTIPQVHTKLOHSLDTPALRRARSAPAAIA 61
DB 1 MSMLFTLTATLFLIGVQAEPTDSNVPEGSVPEAHWTKLOHSLDTPALRRARSAPAAIA 60
OY 62 ARAGOTRATVTPRLFKKRLRSRPRVLESTOPPREADTODLDEVEGAAPNRHRSK 121
DB 61 ARAGOTRATVTPRLFKKRLRSRPRVLESTOPPREADTODLDEVEGAAPNRHRSK 120
OY 122 RSSSHPIFHGSEVSDSVVMVGDKTATDICKGEVMVGEVINNSVKKOYFEFKR 101
DB 121 RSSSHPIFHGSEVSDSVVMVGDKTATDICKGEVTVGEVINNSVKKOYFEFKR 100
OY 182 DPYVDSCGSGIDSKHNSYCTTHTFVKALTDGSKOAAWRTIRIDTACVLSRKAARR 241
DB 181 APNPVSCGSGIDSKHNSYCTTHTFVKALTDGSKOAAWRTIRIDTACVLSRKAARR 240

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AC P13600; O18969;
DT 01-JAN-1990 (Rel. 13, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF) (Fragment).
GN NGFB.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-Blood;
RX MEDLINE-97430845; PubMed-9284944;
RA Ebdague C., Laurent P., Hayes H., Rodellar C., Levezzel H.,
RA Zaragoza P.;
RT "Assignment of the beta-nerve growth factor (NGFB) to bovine
RT chromosome 3 band q23 by in situ hybridization.";
RL Cytogenet. Cell Genet. 77:306-307(1997).
RN [2]
RP SEQUENCE OF 107-231 FROM N.A.
RX MEDLINE-86300647; PubMed-2427334;
RA Meier R., Becker-Andre M., Goltz R., Heumann R., Shaw A., Thoenen H.;
RT "Molecular cloning of bovine and chick nerve growth factor (NGF):
RT delineation of conserved and unconserved domains and their
RT relationship to the biological activity and antigenicity of NGF.";
RL EMBL J. 5:1489-1493(1986).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NEUROUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC -----
DR EMBL; Y09566; CAAT0759.1; -
DR EMBL; M26809; AAA30666.1; -
DR PIR; A26312; A26312.
DR HSSP; P01139; 1BET.
DR InterPro; IPRO02072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 1
FT NON_TER 1 1
FT SIGNAL 1 8
FT PROPEP 9 111
FT CHAIN 112 231
FT DISULFID 126 191
FT DISULFID 169 219
FT DISULFID 179 221
FT CARBOHYD 156 156
FT CARBOHYD 118 118
FT CONFLICT 161 161
FT CONFLICT 230 231
SQ SEQUENCE 231 AA; 25437 MW; 01605099291A418C CRC64;

Query Match 86.6%; Score 1106; DB 1; Length 231;
Best Local Similarity 90.7%; Pred. No. 1e-97;
Matches 205; Conservative 7; Mismatches 14; Indels 0; Gaps 0;

OY 12 AFLIGIOAEPHSESNVPAGHTIPQVHTKLOHSLDTPALRRARSAPAAIAARVAGOTRNI 71

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Db 1 MSMLFYTLITAFLLIGVQAEFYTDNSNVEGDSVPEAHWTKLQHSJLDTALRRARSAPTAPIA 60
Qy 62 ARVAGOTRNTVDRPLFKKRLRSLRVLFSTOPREAADTODLDFEFGAAPFRTNRK 121
Db 61 ARVAGOTRNTVDRPLFKKRLRSLRVLFSTOPREAADTODLDFEFGAAGTTPFRTNRK 120
Qy 122 RSSHPFJHGRGFSVCDVSVMWGDKTATADIKGEVNVGGEVNNINSVFOYFEETKCR 181
Db 121 RSSHPFJHGRGFSVCDVSVMWGDKTATADIKGEVNVGGEVNNINSVFOYFEETKCR 180
Qy 182 DPNPVDGCGIDSKHNSYCTTHTFVKALITMDGKOANRFIRIDPACVLSRKAARR 241
Db 181 ASNPVESGCGIDSKHNSYCTTHTFVKALITMDGKOANRFIRIDPACVLSRKAARR 240

RESULT 6
NGF_CAVPO STANDARD; PRT; 241 AA.
AC P10933;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DE 01-NOV-1997 (Rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriocognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE=Prostate;
RX MEDLINE=89177243; PubMed=2926397;
RA Schwarz M.A., Fisher D., Bradshaw R.A., Isackson P.J.;
RT Isolation and sequence of a cDNA clone of beta-nerve growth factor
RT from the guinea pig prostate gland.
J. Neurochem. 52:1203-1209(1989).
RL J.
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSOR NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
DR PIR: J10097; J10097.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF. 1.
DR SMART: SM00140; NGF. 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS00270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18 POTENTIAL.
FT PROPEP 19 121 BETA-NERVE GROWTH FACTOR.
FT CHAIN 122 241 BY SIMILARITY.
FT DISULFID 136 201 BY SIMILARITY.
FT DISULFID 179 229 BY SIMILARITY.
FT DISULFID 189 231 BY SIMILARITY.
FT CARBOHYD 69 69 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 114 114 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 241 AA; 26821 MW; 2F4E26B197804BFA CRC64;

Query Match 85.5%; Score 1092; DB 1; Length 241;
Best Local Similarity 86.2%; Pred. No. 2.3e-96;
Matches 207; Conservative 10; Mismatches 23; Indels 0; Gaps 0;
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Qy 122 RSSHPFJHGRGFSVCDVSVMWGDKTATADIKGEVNVGGEVNNINSVFOYFEETKCR 181
Db 121 RSSHPFJHGRGFSVCDVSVMWGDKTATADIKGEVNVGGEVNNINSVFOYFEETKCR 180
Qy 182 DPNPVDGCGIDSKHNSYCTTHTFVKALITMDGKOANRFIRIDPACVLSRKAARR 241
Db 181 DPNPVDGCGIDSKHNSYCTTHTFVKALITMDGKOANRFIRIDPACVLSRKAARR 240

RESULT 7
NGF_PRANA STANDARD; PRT; 241 AA.
AC P20675;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Praomys natalensis (African soft-furred rat) (Mastomys natalensis).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
OC Mastomys.
OX NCBI_TaxID=10112;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=89172070; PubMed=3234767;
RA Fahnestock M., Bell R.A.;
RT "Molecular cloning of a cDNA encoding the nerve growth factor
RT precursor from Mastomys natalensis."
J. Gene 69:257-264(1988).
RL Gene 69:257-264(1988).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSOR NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
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CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC -----
DR EMBL: M22748; AAA40599.1; ALT_INIT.
DR PIR: J10343; NGRTBA.
DR HSSP: P01139; 1BTS.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF. 1.
DR SMART: SM00140; NGF. 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS00270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18 POTENTIAL.
FT PROPEP 19 121 BETA-NERVE GROWTH FACTOR.
FT CHAIN 122 241 BY SIMILARITY.
FT DISULFID 136 201 BY SIMILARITY.
FT DISULFID 179 229 BY SIMILARITY.
FT DISULFID 189 231 BY SIMILARITY.
FT CARBOHYD 69 69 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 114 114 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 166 166 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 241 AA; 27035 MW; 8BFB207A1F6B2F7 CRC64;

Query Match 84.0%; Score 1073; DB 1; Length 241;
Best Local Similarity 83.3%; Pred. No. 1.5e-94;
Matches 200; Conservative 17; Mismatches 23; Indels 0; Gaps 0;
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||||| 1 MSMLFTLLTALLIGVOAEPTDNLPEGDSVPEAHWTKLQHSIDLRLRARSAPAPIA 60
Db 1
Qy 62 ARVAGCGRNTTVPRLFFKRRRLSPRYLSTOOPREADTODLDEFEGVGAAPNRTSRK 121
Db 61 ARVTGGRNTTVPRLFFKRRRLSPRYLSTOOPREADTODLDEFEGVGAAPNRTSRK 120
Qy 122 RSSHPPIFHGEFVSCDSVVMWGDKTTATDINGKREVMVLGEVNNINSVKQYFEETKCR 181
Db 121 RSSHPPIFHGEFVSCDSVVMWGDKTTATDINGKREVMVLGEVNNINSVKQYFEETKCR 180
Qy 182 DPNVDSGCRGIDSKHNSYCTTHTFVKALITDNGKAARFRIDPACVLSRKAVR 241
Db 181 ARNVESGCRGIDSKHNSYCTTHTFVKALITDNGKAARFRIDPACVLSRKAVR 240

RESULT 8
NGF_CHICK STANDARD; PRT: 243 AA.
AC P05200;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OC NCBI_TaxID=9031;
X 1
R SEQUENCE FROM N.A.
R MEDLINE=66300646; PubMed=3017695;
R Ebendehl T., Larhammar D., Persson H.;
R "Structure and expression of the chicken beta nerve growth factor
R gene.";
R EMBO J. 5:1483-1487(1986).
R
R (2)
R SEQUENCE OF 118-243 FROM N.A.
R MEDLINE=66248129; PubMed=3720959;
R Wion D., Perret C., Frechlin N., Keller A., Behar G., Brachet P.;
R "Molecular cloning of the avian beta-nerve growth factor gene:
R transcription in brain.";
R FEBS Lett. 203:82-86(1986).
R
R (3)
R SEQUENCE OF 121-243 FROM N.A.
R MEDLINE=66300647; PubMed=2427334;
R Meier R., Becker-Andre M., Gotz R., Heumann R., Shaw A., Thoenen H.;
R "Molecular cloning of bovine and chick nerve growth factor (NGF):
R delineation of conserved and unconserved domains and their
R relationship to the biological activity and antigenicity of NGF.";
R EMBO J. 5:1489-1493(1986).
R
R (4)
R SEQUENCE OF 181-222 FROM N.A.
R MEDLINE=9122573; PubMed=2025430;
R Halboeck F., Ibanez C.F., Persson H.;
R "Evolutionary studies of the nerve growth factor family reveal a
R novel member abundantly expressed in Xenopus ovary.";
R Neuron 6:845-858(1991).
R
R -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
R MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
R STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
R EMBRYONIC SENSORY NEURONS.
R -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
R -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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DR EMBL: X04003; CA27633.1; ALT_INIT.
DR EMBL: X04067; CA27703.1; -.
DR EMBL: M26810; AAA48984.1; -.
DR PIR: A24857; A24857.
DR PIR: A26311; A26311.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF.1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF.1.
DR SMART: SM00140; NGF.1.
DR PROSITE: PS00248; NGF.1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 22 POTENTIAL.
FT PROPEP 23 125
FT CHAIN 126 243 BETA-NERVE GROWTH FACTOR.
FT DISULFID 139 204 BY SIMILARITY.
FT DISULFID 182 232 BY SIMILARITY.
FT DISULFID 192 234 BY SIMILARITY.
SQ SEQUENCE 243 AA; 27138 MW; 74C306CB2079DA07 CRC64;

Query Match 61.7%; Score 788.5; DB 1; Length 243;
Best Local Similarity 64.9%; Pred. No. 1.4e-67;
Matches 161; Conservative 20; Mismatches 48; Indels 19; Gaps 6;

Qy 2 MSMLFTLLTALLIGVOAEPTDNLPEGDSVPEAHWTKLQHSIDLRLRARSAPAPIA 57
Db 5 MSMLFTLLTALLIGVOAEPTDNLPEGDSVPEAHWTKLQHSIDLRLRARSAPAPIA 57
Qy 58 AAARVA-----GOTRITVDPRFLFKRRRLSPRYLSTOOPREADTODLDEFEGVGA 112
Db 58 TT-HCRFAMPDGIEDLNIANDQNFKKRRSSVLESTQPPVSRKQSTGF-LSSAV 115
Qy 113 PENRTSRKSSHPDIFRGEFVSCDSVVMWGDKTTATDINGKREVMVLGEVNNINSVK 172
Db 116 SLNRTAFRTKR-TAHVLRGEFVSCDSVVMWGDKTTATDINGKREVMVLGEVNNINSVK 174
Qy 173 QYFEETKCRDPNPVSGCRGIDSKHNSYCTTHTFVKALITDNGKAARFRIDPACVC 232
Db 175 QYFEETKCRDPNPVSGCRGIDSKHNSYCTTHTFVKALITDNGKAARFRIDPACVC 234
Qy 233 VLSRKAVR 240
Db 235 VLSRSGR 242

RESULT 9
NGF_XENLA STANDARD; PRT: 231 AA.
AC P21617;
DT 01-MAY-1991 (Rel. 18, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Nerve growth factor precursor (NGF).
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipiloidea; Pipidae;
OC Xenopodinae; Xenopus.
OC NCBI_TaxID=8355;
X 1
R SEQUENCE FROM N.A.
R MEDLINE=91362944; PubMed=1888511;
R Carleto F., Campioni M., Cardinali B., Pierandrei-Amaldi P.;
R "Structure and expression of the nerve growth factor gene in Xenopus
R oocytes and embryos.";
R Mol. Reprod. Dev. 29:313-322(1991).
R
R (2)
R SEQUENCE OF 170-211 FROM N.A.
R TISSUE=Liver;
R MEDLINE=9122573; PubMed=2025430;

```

RA Hallboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT member abundantly expressed in Xenopus ovary.",
RL Neuron 6:845-856(1991).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSOR NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@lsb-sib.ch).
CC -----
DR EMBL: X55716; CAA39249.1; ALT_INT.
DR PIR: S14481; S14481.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00246; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 114
FT CHAIN 115 231
FT DISULFID 128 193
FT DISULFID 171 221
FT DISULFID 181 223
FT CARBOHYD 63 63
FT CARBOHYD 107 107
FT CARBOHYD 158 158
SQ SEQUENCE 231 AA; 26416 MW; 72A04E7D00B858C5 CRC64;

Query Match 60.5%; Score 773; DB 1; Length 231;
Best Local Similarity 63.6%; Pred. No. 3.9e-66;
Matches 154; Conservative 27; Mismatches 41; Indels 20; Gaps 6;

OY 2 MSMLYTLITAFILGIAEPHSESINVAGH---IP-QVHMK-LQHSIDTALRRASA 55
1 MSMLYTLITLILISVQAAPKTDHAPARSASAKSRIPHHTKSLHNS----- 49
DB 56 PAAAIARVAGQTNITVYDPLFKKRLRSPRVLFSTOPPREADTDQDLDFEVGAAPFN 115
DB 50 -HGKLEKPESEYFRNRYVDPLFKFRKRSRVLSTOPPLSDFOLEY-LDDEESLN 107
OY 116 RTSRKSSSHPIFRHGEFVSVDVSWVVGDKTATDIDKGEVWVLGEVNINNSYKOF 175
DB 108 KTIARR-TVHPVLAHGEYSVCDSDVSMWVGKATATDKGEVYVLGAVNINNSYKOF 166
OY 176 ETICRDPNPVDSGCRGIDSKHNSYCTTHTFVKALITMDGQAAMRFIRIDTACVYLS 235
DB 167 FETCRDPKPVSGCRGIDAKHNSYCTTHTFVKALITMDGQAAMRFIRIDTACVYLS 226
OY 236 RK 237
DB 227 RK 228

RESULT 10
NGF_BUNMU
ID NGF_BUNMU STANDARD; PRT; 243 AA.
AC P34128;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)

DE Nerve growth factor precursor (NGF).
OS Bungarus multicinctus (Many-banded krait).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
OC Elapidae; Bungarinae; Bungarus.
OX NCBI_TaxID=8616;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Venom gland;
RX MEDLINE=93192074; Pubmed=7916740;
RA Danse J.M., Garnier J.M.;
RT "Molecular cloning of a cDNA encoding a nerve growth factor precursor
RT from the krait, Bungarus multicinctus.",
RL Growth Factors 8:77-86(1993).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSOR NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
CC NEURONS IN THE BRAIN.
CC -1- SUBUNIT: HOMODIMER.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@lsb-sib.ch).
CC -----
DR EMBL: S56212; AAB25729.1; -.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00246; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 125
FT CHAIN 126 243
FT DISULFID 139 204
FT DISULFID 182 232
FT DISULFID 192 234
SQ SEQUENCE 243 AA; 27514 MW; E33F64B142179A08 CRC64;

Query Match 52.9%; Score 675.5; DB 1; Length 243;
Best Local Similarity 56.8%; Pred. No. 7.4e-57;
Matches 137; Conservative 30; Mismatches 67; Indels 7; Gaps 4;

OY 2 MSMLYTLITAFILGIAEPHSESINVAGH---HTIPVHNTKLSIDTALRRASAPA 57
1 MSMLYTLITLILISVQAAPKTDHAPARSASAKSRIPHHTKSLHNS----- 49
DB 56 PAAAIARVAGQTNITVYDPLFKKRLRSPRVLFSTOPPREADTDQDLDFEVGAAPFN 115
DB 50 -HGKLEKPESEYFRNRYVDPLFKFRKRSRVLSTOPPLSDFOLEY-LDDEESLN 107
OY 116 RTSRKSSSHPIFRHGEFVSVDVSWVVGDKTATDIDKGEVWVLGEVNINNSYKOF 175
DB 108 KTIARR-TVHPVLAHGEYSVCDSDVSMWVGKATATDKGEVYVLGAVNINNSYKOF 166
OY 176 ETICRDPNPVDSGCRGIDSKHNSYCTTHTFVKALITMDGQAAMRFIRIDTACVYLS 235
DB 167 FETCRDPKPVSGCRGIDAKHNSYCTTHTFVKALITMDGQAAMRFIRIDTACVYLS 226
OY 236 RK 237
DB 227 RK 228

RESULT 10
NGF_BUNMU
ID NGF_BUNMU STANDARD; PRT; 243 AA.
AC P34128;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)

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RESULT 11
NGF_DABRR
ID NGF_DABRR STANDARD: PRT: 117 AA.
AC P30894;
DT 01-JUL-1993 (Rel. 26, Created)
DT 01-JUL-1993 (Rel. 26, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Nerve growth factor (NGF).
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Daboia russellii russellii (Russell's viper) (Vipera russellii).
OC Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubridae;
OC Viperidae; Viperinae; Daboia.
OX NCBI_TaxID=31159;
RN [1]
RP SEQUENCE.
RC MEDLINE=93120151; PubMed=1477101;
RX Koyama J.-I., Inoue S., Ikeda K., Hayashi K.;
RA "Purification and amino-acid sequence of a nerve growth factor from
RT the venom of Vipera russellii russellii."
RL Blochm. Biophys. Acta 1160:287-292(1992).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
CC NEURONS IN THE BRAIN.
CC -1- SUBUNIT: HOMODIMER.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
DR PIR: S28161; S28161.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Glycoprotein; Growth factor.
FT DISULFID 12 77 BY SIMILARITY.
FT FT 55 105 BY SIMILARITY.
FT DISULFID 65 107 BY SIMILARITY.
FT CARBOHYD 21 21 N-LINKED (GLCNAC).
SQ SEQUENCE 117 AA; 13283 MW; A64553C5FEC11F66 CRC64;

Query Match 37.9%; Score 484; DB 1; Length 117;
Best Local Similarity 74.1%; Pred. NO. 4.4e-39;
Matches 83; Conservative 19; Mismatches 10; Indels 0; Gaps 0;

QY 126 HPIFRGEFVCDVSVMVGDKTTATDIDKGEVNLGEVINNSVFKQYFEETKCRDNP 185
DB 1 HPVHNGEFSVCDVSVMVANKTKATDMRGNVTVWVDVNLNNVKKQYFEETKCRDNP 60
QY 186 VDSGCGIDSKHNSCYCTTHTFYKALTMDCGQAAMRFIRIDTACVLSRK 237
DB 61 VPSGCGIDAKHNSCYCTTHTFYKALTMDCGQAAMRFIRIDTACVLSRK 112

RESULT 12
NGF_XIPMA
ID NGF_XIPMA STANDARD: PRT: 194 AA.
AC P34129;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Nerve growth factor precursor (NGF).
OS Xiphophorus maculatus (Southern platyfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC Cyprinodontiformes; Poeciliidae; Xiphophorus.
OX NCBI_TaxID=8083;
RN [1]
RP SEQUENCE FROM N.A.
```

```
RX MEDLINE=9333301; PubMed=1629719;
RA Gotz R., Raulf F., Schartl M.;
RT "Brain-derived neurotrophic factor is more highly conserved in
RT structure and function than nerve growth factor during vertebrate
RT evolution."
RL J. Neurochem. 59:432-442(1992).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
CC NEURONS IN THE BRAIN.
CC -1- SUBUNIT: HOMODIMER.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: X59941; CAA42566.1; -.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; FALSE-NEG.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 30 POTENTIAL.
FT PROPEP 31 79
FT CHAIN 80 194 NERVE GROWTH FACTOR.
FT DISULFID 90 155 BY SIMILARITY.
FT DISULFID 133 183 BY SIMILARITY.
FT DISULFID 143 185 BY SIMILARITY.
SQ SEQUENCE 194 AA; 21596 MW; 0369E0FA51147AE CRC64;

Query Match 37.7%; Score 481.5; DB 1; Length 194;
Best Local Similarity 58.9%; Pred. NO. 1.4e-38;
Matches 99; Conservative 13; Mismatches 39; Indels 17; Gaps 3;

QY 72 TVDPRLFKRRRLRSRVLFTSTPPREADTDODLFE-VGGAAPFNRTKRSKRSSHPLTH 130
DB 40 TVDPKLFKRRRLRSRVLFTSSQPP-----DAEPAGGCVSRTRRQP-----H 83
QY 131 RGEFSVCDVSVMVGDKTTATDIDKGEVNLGEVINNSVFKQYFEETKCRDNPVDSGC 190
DB 84 RGVSVCSVESVVMVGKTKATDIDSGKEVNLGEVINNSVKKQYFEETKCHSPSGSNC 143
QY 191 RGLDSKHNNSCYCTTHTFYKALTMDCGQAAMRFIRIDTACVLSRKA 238
DB 144 LGLDARHNSHCTNSHTFVRLTSSENVAMRLIRINACVLSKKS 191

RESULT 13
NT3_HUMAN
ID NT3_HUMAN STANDARD: PRT: 257 AA.
AC P20783;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)
DE (Nerve growth factor 2) (NGF-2).
GN NTF3.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
```

RX MEDLINE-90262727; PubMed-2344409;
 RA Rosenzthal A., Goeddel D.V., Nguyen T., Lewis M., Shih A.,
 RA Laramee G.R., Nikolic K., Winslow J.W.;
 RT "Primary structure and biological activity of a novel human
 RT neurotrophic factor.";
 RL Neuron 4:767-773(1990).
 RN (2)
 RN SEQUENCE FROM N.A.
 RX MEDLINE-91045937; PubMed-2236018;
 RA Jones K.R., Reichardt L.F.;
 RT "Molecular cloning of a human gene that is a member of the nerve
 RT growth factor family.";
 RL Proc. Natl. Acad. Sci. U.S.A. 87:8060-8064(1990).
 RN (3)
 RN SEQUENCE FROM N.A.
 RX MEDLINE-90306351; PubMed-2365067;
 RA Kallino Y., Yoshimura K., Nakahama K.;
 RT "Cloning and expression of a cDNA encoding a novel human neurotrophic
 RT factor.";
 RL FEBS Lett. 266:187-191(1990).
 RN (4)
 RN SEQUENCE FROM N.A.
 RX MEDLINE-91365361; PubMed-1889806;
 RA Maisongier P.C., Le Beau M.M., Espinosa R. III, Ip N.Y.,
 RA Belluscio L., de la Monte S.M., Squinto S., Furth M.E.,
 RA Yancopoulos G.D.;
 RT "Human and rat brain-derived neurotrophic factor and neurotrophin-3:
 RT gene structures, distributions, and chromosomal localizations.";
 RL Genomics 10:558-568(1991).
 RN (5)
 RN SEQUENCE OF 194-236 FROM N.A.
 RC TISSUE=Leukocyte;
 RX MEDLINE-9122573; PubMed-2025430;
 RA Hallboeck F., Ibanez C.F., Persson H.;
 RT "Evolutionary studies of the nerve growth factor family reveal a
 RT novel member abundantly expressed in Xenopus ovary.";
 RL Neuron 6:845-858(1991).
 RN (6)
 RN X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).
 RX MEDLINE-95217877; PubMed-7703225;
 RA Robinson R.C., Radziejewski C., Stuart D.I., Jones E.Y.;
 RT "Structure of the brain-derived neurotrophic factor/neurotrophin 3
 RT heterodimer.";
 RL Biochemistry 34:4139-4146(1995).
 RN (7)
 RN VARIANT GLU-76
 RP MEDLINE-95251647; PubMed-7733919;
 RA Hattori M., Nanko S.;
 RT "Association of neurotrophin-3 gene variant with severe forms of
 RT schizophrenia.";
 RL Blochem. Biophys. Res. Commun. 209:513-518(1995).
 RN (8)
 RN VARIANT GLU-76
 RX MEDLINE-96233892; PubMed-8925252;
 RA Ariami T., Takekoshi K., Itokawa M., Hamaguchi H., Toru M.;
 RT "Failure to find associations of the CA repeat polymorphism in the
 RT first intron and the Gly-63/Glu-63 polymorphism of the neurotrophin-3
 RT gene with schizophrenia.";
 RL Psychiatr. Genet. 6:13-15(1996).
 CC -1- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND
 CC PROPRIOCEPTIVE SENSORY NEURONS.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- TISSUE SPECIFICITY: BRAIN AND PERIPHERAL TISSUES.
 CC -1- POLYMORPHISM: Variant Glu-76 (frequently reported as Glu-63) was
 CC thought to be associated with severe forms of schizophrenia. This
 CC does not seem to be the case.
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
 CC -----
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 CC -----
 DR EMBL: X53655; CAA37703.1; -;
 DR EMBL: M37763; AAA59953.1; -;
 DR EMBL: M61180; AAA63231.1; -;
 DR PIR: JH0141; JH0141.
 DR PIR: A36208; A36208.
 DR PIR: S10719; S10719.
 DR PIR: C40304; C40304.
 DR PDB: 1BND; 04-APR-96.
 DR PDB: 1B8K; 09-FEB-99.
 DR Genew: HGNC:8023; NTF3.
 DR MIM: 162660; -;
 DR InterPro: IPR002400; GF_cysknot.
 DR InterPro: IPR002072; NGF.
 DR Pfam: PF00243; NGF_1.
 DR PRINTS: PR00438; GFCYSKNOT.
 DR PRINTS: PR00268; NGF.
 DR ProDom: PD002052; NGF_1.
 DR SMART: SM00140; NGF_1.
 DR PROSITE: PS00248; NGF_1; 1.
 DR PROSITE: PS50270; NGF_2; 1.
 KW Growth factor; Signal; Polymorphism; 3D-structure.
 FT SIGNAL 1 16
 FT PROPEP 17 138
 FT CHAIN 139 257
 FT DISULFID 152 217
 FT DISULFID 195 246
 FT DISULFID 205 248
 FT CARBOHYD 131 131
 FT VARIANT 76 76
 FT
 FT
 SQ SEQUENCE 257 AA; 29354 MW; 39A5BB3B28E25E03 CRC64;
 N-LINKED (GLCNAC. . .) (POTENTIAL).
 G -> E.
 Query Match 37.7%; Score 481.5; DB 1; Length 257;
 Best Local Similarity 40.7%; Pred. No. 2e-38;
 Matches 107; Conservative 37; Mismatches 88; Indels 31; Gaps 6;
 QY 2 MSMLFTLLTAFLGICDAEPHSESNVPAGHTIPV-----HWTKLQHSLD 46
 DB 1 MSILFVIFALYALRGDIGNMMDRSLPDELSLILKILQADILKNLSKRWMDVKENYQ 60
 QY 47 TALPRA-----RSAPAAALAAVACGTNRITVDPRLF-KRRLRSPLYFSQPPREA 98
 DB 61 STLPKAEAPREPERGGRPAKSAFOV-----IADDTLLHQQRVNSPRVLSSTPLEP 114
 QY 99 ADTQDLDFEYGAAPFNRTHRSKRSSHPLEHNGEFSVDSVSWYGDKTATDINGKEY 158
 DB 115 PRLYMEDYVGPVAVNARTSRKRYAEHK-SHGEYVCSDESLSLWVDKSAIDIRGHQV 173
 QY 159 MVLGEVINNSVFKQYFEFEKCRDNPVDSGCRGIDSKHNNSCTTHTYKALTM-DGK 217
 DB 174 TVLGEIKTGNSPVKQYFEFEKCRDNPVDSGCRGIDSKHNNSCTTHTYKALTM-DGK 233
 QY 218 QAAWRFRTIDPACVYLSKAVR 240
 DB 234 LVGKRWIRIDTSCVCALSKRIGR 256
 RESULT 14
 NT3_XENLA STANDARD; PRT; 260 AA.
 ID NT3_XENLA
 AC P25435;
 DT 01-MAY-1992 (Rel. 22, Created)
 DT 01-NOV-1997 (Rel. 35, Last sequence update)
 DT 30-MAY-2000 (Rel. 39, Last annotation update)
 DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF) (Nerve
 DE growth factor 2) (NGF-2).
 OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidae; Pipidae;
 OC Xenopodinae; Xenopus.

Db 180 KSGNSPVKQYFETRCKEARPYKNGCRGIDDKHMSOCKTSQTYVRALTSNNKLVGWRW 239
OY 224 IRIDFACVCLSRKAVR 240
Db 240 IRIDTSCVCLSRKIGR 256

Search completed: December 2, 2002, 15:12:42
Job time : 10.9297 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 : Search time 37.449 Seconds
(without alignments)
1331.501 Million cell updates/sec

Title: US-10-072-681-1
Perfect score: 1277
Sequence: 1 PMSMLFYTLTAFLLIGIAE.....FIRIDPACVLSRKAVRRA 242

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Searched: 671580 segs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database:

SPTREMBL_21:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriap:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1266	99.1	241	4	Q9UKL8
2	1265	99.1	241	4	Q9P208
3	1258	98.5	241	4	Q9P208
4	1249	97.8	241	6	Q9P208
5	1248	97.7	241	6	Q9P208
6	1247	97.7	241	6	Q9P208
7	1132	88.6	217	6	Q9N183
8	1038	81.3	294	11	Q9N183
9	713	55.8	241	13	Q9P208
10	709	55.5	241	13	Q9P208
11	462	36.2	87	4	Q9P208
12	459	35.9	87	4	Q9P208
13	449.5	35.2	132	11	Q9W015
14	426.5	33.4	241	6	Q9N182
15	426	33.4	286	13	Q9N188
16	363	28.4	247	6	Q97759

17	360	28.2	249	11	Q9VH44	Q9VH44 mus musculus
18	342.5	26.8	246	13	Q8G74	Q8G74 cyclodops
19	341.5	26.7	246	13	Q8G76	Q8G76 japonica sp
20	339.5	26.6	270	13	Q9YH42	Q9YH42 brachydanio
21	335.5	26.3	246	13	Q8G75	Q8G75 phrynosoma
22	334.5	26.2	153	11	Q9CYL3	Q9CYL3 mus musculus
23	331.5	26.0	177	13	Q9IBL2	Q9IBL2 poephila gu
24	319	25.0	247	13	Q8G77	Q8G77 tylosioteito
25	294.5	23.1	101	6	Q9T22	Q9T22 macaca fusc
26	293	22.9	324	13	Q9X95	Q9X95 lampetra fl
27	291	22.8	186	12	Q9S0D9	Q9S0D9 fowipox vir
28	242	19.0	52	6	Q9N1V4	Q9N1V4 equus caball
29	226	17.7	85	6	Q02790	Q02790 macropus fu
30	224	17.5	42	6	Q02802	Q02802 trichosurus
31	220	17.2	85	6	Q13114	Q13114 isodon mac
32	220	17.2	85	6	Q13122	Q13122 tarsipes ro
33	220	17.2	85	6	Q02795	Q02795 ornithorhyn
34	220	17.2	85	6	Q02798	Q02798 petaurus br
35	220	17.2	85	6	Q13104	Q13104 cercartus
36	220	17.2	85	6	Q02792	Q02792 notoryctes
37	220	17.2	85	6	Q02801	Q02801 dasyuroides
38	220	17.2	85	6	Q02803	Q02803 tachylosus
39	219	17.1	85	6	Q02803	Q02803 tachylosus
40	211	16.5	42	6	Q02794	Q02794 ornithorhyn
41	209	16.4	42	6	Q02800	Q02800 tachylosus
42	178.5	14.0	186	6	Q9BFC4	Q9BFC4 lemur catia
43	178.5	14.0	186	11	Q99NM1	Q99NM1 castor cana
44	176.5	13.8	186	6	Q9BFC7	Q9BFC7 ochotona hy
45	175	13.7	185	6	Q9BFC6	Q9BFC6 talpa alta

ALIGNMENTS

RESULT 1

ID	Q9UKL8	PRELIMINARY	PRT	241 AA.
AC	Q9UKL8			
DT	01-MAY-2000 (TREMBLrel. 13, Created)			
DT	01-MAY-2000 (TREMBLrel. 13, Last sequence update)			
DT	01-MAR-2002 (TREMBLrel. 20, Last annotation update)			
DE	Nerve growth factor B.			
GN	NGFB.			
OS	Homo sapiens (Human).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.			
OX	NCBI_TaxID=9606;			
RP	SEQUENCE FROM N.A.			
RX	MEDLINE-99256269; PubMed-10322959;			
RA	Tong Y., Wang H., Chen W.;			
RT	"Cloning and sequencing of the gene for premature beta nerve growth factor."			
RL	Chung Kuo Ying Yung Sheng Li Hsueh Tsa Chih 13:316-318(1997).			
RN	[2]			
RP	SEQUENCE FROM N.A.			
RA	Tong Y., Wang H.;			
RL	Submitted (MAY-1999) to the EMBL/GenBank/DBJ databases.			
DR	EMBL: AF150960; AAD5975.1; -			
DR	HSSP: P01139; IBET.			
DR	Interpro: IPR02072; NGF.			
DR	Pfam: PF00243; NGF.1.			
DR	PRINTS: PR00268; NGF.			
DR	PRODOM: PD002052; NGF.1.			
DR	SMART: SM00140; NGF.1.			
DR	PROSITE: PS00248; NGF.1; 1.			
DR	POSTSITE: PSS0270; NGF.2; 1.			
SO	SEQUENCE 241 AA; 2695 MW; 619DFC65EB3BD671 CRC64;			
Query Match	99.1%	Score 1266; DB 4; Length 241;		
Best Local Similarity	99.6%	Pred. No. 6.6e-117;		
Matches 240; Conservative	0;	Mismatches 1; Indels 0; Gaps 0;		

DR HSSP; P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS0270; NGF_2; 1.
DR NON_TER 241 241
FT SEQUENCE 241 AA; 26915 MW; 6F5AD163C384BB34 CRC64;

Query Match 97.8%; Score 1249; DB 6; Length 241;
Best Local Similarity 98.8%; Pred. No. 3.1e-115;
Matches 238; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHNTKLOHSLDTALRRARSAPAAIA 61
DB 1 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHNTKLOHSLDTALRRARSAPAAIA 60
QY 62 ARVAGOTRNTVDPRLFKKRLRSPRVLFSTQPPREAADTODLDFEVGAAPFRTHRSK 121
DB 61 ARVAGOTRNTVDPRLFKKRLRSPRVLFSTQPPREAADTODLDFEVGAAPFRTHRSK 120
QY 122 RSSHPFIFHNGEFSVCDVSVWVGDKTTATDIDIKKEVMVLGEVINNSVFKQYFEETKCR 181
DB 121 RSSHPFIFHNGEFSVCDVSVWVGDKTTATDIDIKKEVMVLGEVINNSVFKQYFEETKCR 180
QY 182 DPNVDGCGRGIDSKHNSYCTTHTFEVKALTMGKQAAWRFIRIDPACVLSRKAARR 241
DB 181 DPNVDGCGRGIDSKHNSYCTTHTFEVKALTMGKQAAWRFIRIDPACVLSRKAARR 240
QY 242 A 242
DB 241 A 241

RESULT 5

Q9NZF1 PRELIMINARY; PRT; 241 AA.
AC Q9NZF1;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE Beta-nerve growth factor (Fragment).
GN BETA-NGF.
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Pan.
OX NCBI_TaxID=9598;
RN (1)
RP SEQUENCE FROM N.A.
RC STRAIN-CHIMP-220;
RA Kitano T., Kobayakawa H., Saitou N.;
RT "Silver Project."
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB037518; BAA90438.1; -
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS0270; NGF_2; 1.
DR NON_TER 241 241
FT SEQUENCE 241 AA; 26868 MW; B39FAA8912C00A0B CRC64;

Query Match 97.7%; Score 1248; DB 6; Length 241;
Best Local Similarity 98.3%; Pred. No. 3.9e-115;
Matches 237; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
QY 2 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHNTKLOHSLDTALRRARSAPAAIA 61
DB 1 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHNTKLOHSLDTALRRARSAPAAIA 60

DB 1 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHNTKLOHSLDTALRRARSAPAAIA 60
QY 62 ARVAGOTRNTVDPRLFKKRLRSPRVLFSTQPPREAADTODLDFEVGAAPFRTHRSK 121
DB 61 ARVAGOTRNTVDPRLFKKRLRSPRVLFSTQPPREAADTODLDFEVGAAPFRTHRSK 120
QY 122 RSSHPFIFHNGEFSVCDVSVWVGDKTTATDIDIKKEVMVLGEVINNSVFKQYFEETKCR 181
DB 121 RSSHPFIFHNGEFSVCDVSVWVGDKTTATDIDIKKEVMVLGEVINNSVFKQYFEETKCR 180
QY 182 DPNVDGCGRGIDSKHNSYCTTHTFEVKALTMGKQAAWRFIRIDPACVLSRKAARR 241
DB 181 DPNVDGCGRGIDSKHNSYCTTHTFEVKALTMGKQAAWRFIRIDPACVLSRKAARR 240
QY 242 A 242
DB 241 A 241

RESULT 6

Q9NZE9 PRELIMINARY; PRT; 241 AA.
AC Q9NZE9;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE Beta-nerve growth factor (Fragment).
GN BETA-NGF.
OS Pongo pygmaeus (Orangutan).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Pongo.
OX NCBI_TaxID=9600;
RN (1)
RP SEQUENCE FROM N.A.
RC STRAIN-ORAN-01;
RA Kitano T., Kobayakawa H., Saitou N.;
RT "Silver Project."
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB037520; BAA90440.1; -
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS0270; NGF_2; 1.
DR NON_TER 241 241
FT SEQUENCE 241 AA; 26876 MW; DFC168E74E01F15 CRC64;

Query Match 97.7%; Score 1247; DB 6; Length 241;
Best Local Similarity 98.3%; Pred. No. 4.9e-115;
Matches 237; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 2 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHNTKLOHSLDTALRRARSAPAAIA 61
DB 1 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHNTKLOHSLDTALRRARSAPAAIA 60
QY 62 ARVAGOTRNTVDPRLFKKRLRSPRVLFSTQPPREAADTODLDFEVGAAPFRTHRSK 121
DB 61 ARVAGOTRNTVDPRLFKKRLRSPRVLFSTQPPREAADTODLDFEVGAAPFRTHRSK 120
QY 122 RSSHPFIFHNGEFSVCDVSVWVGDKTTATDIDIKKEVMVLGEVINNSVFKQYFEETKCR 181
DB 121 RSSHPFIFHNGEFSVCDVSVWVGDKTTATDIDIKKEVMVLGEVINNSVFKQYFEETKCR 180
QY 182 DPNVDGCGRGIDSKHNSYCTTHTFEVKALTMGKQAAWRFIRIDPACVLSRKAARR 241
DB 181 DPNVDGCGRGIDSKHNSYCTTHTFEVKALTMGKQAAWRFIRIDPACVLSRKAARR 240
QY 242 A 242
DB 241 A 241

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RESULT 7
ID 09N183 PRELIMINARY; PRT; 217 AA.
AC 09N183;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE Beta nerve growth factor (Fragment).
OS Macaca fasciata (Japanese macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Plimates; Catarrhini; Cercopithecoidea;
OC Cercopithecoidea; Macaca.
OC NCBI_TaxID=9542;
RN 11
RP SEQUENCE FROM N.A.
RC TISSUE=Blood;
RA MEDLINE=99270338; PubMed=10340513;
RA Okuno H., Tokuyama W., Li Y.X., Hashimoto T., Miyashita Y.;
RT "Quantitative evaluation of neurotrophin and trk mRNA expression in
RT visual and limbic areas along the occipito-temporo-hippocampal pathway
RT in adult macaque monkeys."
RL J. Comp. Neurol. 408:378-398(1999).
RN 12
RP SEQUENCE FROM N.A.
RC TISSUE=Blood;
RA Okuno H., Tokuyama W., Li Y.X., Hashimoto T., Miyashita Y.;
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF222682; AAF33790.1;
DR HSP; P01139; 1BET.
DR InterPro: IPR02072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00248; NGF_1; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
FT NON_TER 1
FT NON_TER 1
SQ SEQUENCE 217 AA; 24240 MW; 36A5A2D1DFCDBD5C CRC64;

Query Match 88.6%; Score 1132; DB 6; Length 217;
Best Local Similarity 98.2%; Pred. No. 9.8e-104;
Matches 213; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 12 AALIGQAEPPHSESNVPGHTIPQVHWTKLOHSLDTALRRASAPAAATAAVAGOTRNI 71
DB 1 AALIGQAEPPHSESNVPGHTIPQAHWKLOHSLDTALRRASAPAAATAAVAGOTRNI 60
QY 72 TVDPRLFKKRLRSPRVLFSTQPPREADTDLDLFEVGAAPFNRTHRSSHPFIHR 131
DB 61 TVDPRLFKKRLRSPRVLFSTQPPREADTDLDLFEVGAAPFNRTHRSSHPFIHR 120
QY 132 GEFVSCDVSVMVGDKTTATDIDIKGEVWVLGEVININSVFQYFFETKCRDNPVDSGR 191
DB 121 GEFVSCDVSVMVGDKTTATDIDIKGEVWVLGEVININSVFQYFFETKCRDNPVDSGR 180
QY 192 GIDSKHMNSYCTTHTFVKALTMDCQKQAMRFIRIDT 228
DB 181 GIDSKHMNSYCTTHTFVKALTMDCQKQAMRFIRIDT 217

RESULT 8
ID 091XB4 PRELIMINARY; PRT; 294 AA.
AC 091XB4;
DT 01-DEC-2001 (Tremblrel. 19, Created)
DT 01-DEC-2001 (Tremblrel. 19, Last sequence update)
DT 01-JUN-2002 (Tremblrel. 21, Last annotation update)
DE Similar to nerve growth factor, beta.
OS Mus musculus (Mouse).
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OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OC NCBI_TaxID=10090;
RN 11
RP SEQUENCE FROM N.A.
RC TISSUE=SALIVARY GLAND;
RA Strausberg R.;
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; BC011123; AAH11123.1;
DR MGI; MGI:97321; NGFb.
DR InterPro: IPR02072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR PROSITE; PS00248; NGF_1;
DR PROSITE; PS50270; NGF_2; 1.
SQ SEQUENCE 294 AA; 32326 MW; 9EF7402DAC699229 CRC64;

Query Match 81.3%; Score 1038; DB 11; Length 294;
Best Local Similarity 84.6%; Pred. No. 2.7e-94;
Matches 193; Conservative 14; Mismatches 21; Indels 0; Gaps 0;

QY 2 MSMLFYLTITFLIGQAEPPHSESNVPGHTIPQVHWTKLOHSLDTALRRASAPAAIA 61
DB 67 MSMLFYLTITFLIGQAEPPHSESNVPGHSDVPEAHWKLOHSLDTALRRASAPAAIA 126
QY 62 ARVAGOTRNIITVDPRLFKKRLRSPRVLFSTQPPREADTDLDLFEVGAAPFNRTHRSK 121
DB 127 ARVAGOTRNIITVDPRLFKKRLRSPRVLFSTQPPREADTDLDLFEVGAAPFNRTHRSK 186
QY 122 RSSHPHFHREFFSVSCDVSVMVGDKTTATDIDIKGEVWVLGEVININSVFQYFFETKCR 181
DB 187 RSSHPHFHREFFSVSCDVSVMVGDKTTATDIDIKGEVWVLGEVININSVFQYFFETKCR 246
QY 182 DPNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDCQKQAMRFIRIDTA 229
DB 247 ASNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDCQKQAMRFIRIDTA 294
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RESULT 9
ID 09DEZ9 PRELIMINARY; PRT; 241 AA.
AC 09DEZ9;
DT 01-MAR-2001 (Tremblrel. 16, Created)
DT 01-MAR-2001 (Tremblrel. 16, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE Nerve growth factor.
OS Crotales durissus terrificus (South American rattlesnake).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidosaurs; Squamata; Scleroglossa; Serpentes; Colubroidae;
OC Viperidae; Crotalinae; Crotalus.
OC NCBI_TaxID=8732;
RN 11
RP SEQUENCE FROM N.A.
RC TISSUE=VENOM GLAND;
RA Hayashi M.A.F., Radis-Baptista G., Yamane T., Camargo A.C.M.;
RT "Cloning and sequence of a cDNA coding for a rattlesnake (Crotalus
RT durissus terrificus) nerve growth factor."
RL Submitted (SEP-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF306533; AAG30924.1;
DR HSP; P01139; 1BET.
DR InterPro: IPR02072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00248; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
SQ SEQUENCE 241 AA; 27118 MW; 4A261F42C5D6FF3F CRC64;

Query Match 55.8%; Score 713; DB 13; Length 241;
Best Local Similarity 59.8%; Pred. No. 2.6e-62;
Matches 144; Conservative 29; Mismatches 58; Indels 10; Gaps 4;
```

QY	2	MSMLFYTLITLTFLLGLOAEHPSESVPAG----	HTIPQVHWTKLOHSLDTALARRASAPA	57
Db	1	MSMLCYTLILFLGIGMAPKSESDVPLGSPATSDLSPTSCAKTHEAKTSKNDQHYPA		60
QY	58	AALAA-RVAGQTRNTVDPRLFFKKRRRLSPRYLSEFSTQPPREAADVQDLDFFEGGAAPNR		116
Db	61	PKKAEDQEGFSANANTIVDPKLFQKRFRPQSPRYLFTQGPPLSRDQSYD----	NANSLNR	116
QY	117	THRSKRSSHPITFHGRFESVCDSSVWVGDKTTATDIDIKGEVYLGEVNIINSVEKQYFF		176
Db	117	NIRAKR-EDHEVHKHGEFESVCDSSVWVWVANKTTATDIGNLTAVADVANNINNYKQYFF		175
QY	177	ETFKGDPPVDSGGCGIDSKHWNYSCTTHFFVKRLTMDDGQAAARFTRIDACVYSR		236
Db	176	ETFKGNPNPVPFGCGIDARHWNISCTTHFFVKRLTMDDGQAAARFTRIDACVYSR		235
QY	237	K 237		
Db	236	K 236		
RESULT	10			
Q90W38				
ID	Q90W38	PRELIMINARY:	PRT:	241 AA.
AC	Q90W38:			
DT	01-DEC-2001 (Tremblrel. 19, Created)			
DT	01-DEC-2001 (Tremblrel. 19, Last sequence update)			
DT	01-MAR-2002 (Tremblrel. 20, Last annotation update)			
DE	Putative neurotrophic growth factor.			
GN	NGF.			
OS	Bohrops jararacusu (Jararacusu).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Leiodontaula; Squamata; Scleroglossa; Serpentes; Colubroides;			
OC	Viperidae; Crotalinae; Bothrops.			
OX	NCBI_TaxID=8726;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	TISSUE=VENOM GLAND;			
RA	Kashima S., Pereira J.O., Astolfi Filho S., Soares A.M.,			
RA	Clutra A.C.O., Giglio J.R., Franca S.C.;			
RT	"Molecular cloning and cDNA sequence of a nerve growth factor			
RT	precursor from bohrops jararacusu venomous gland."			
RL	Submitted (Aug-2000) to the EMBL/Genbank/DBJ databases.			
DR	EMBL; AY007318; AAC12169.1; "			
DR	InterPro: IPR002072; NGF.			
DR	Pfam: PF00243; NGF. 1.			
DR	ProDom: PD002052; NGF. 1.			
DR	PROSITE: PS00248; NGF_1; UNKNOWN_1.			
DR	PROSITE: PS00270; NGF_2; 1.			
SO	SEQUENCE 241 AA; 27161 MW; AC57F724A6531A8F CRC64;			

Query Match	55.5%	Score 709	DB 13	Length 241
Best Local Similarity	59.3%	Pred. No. 6.5e-62		
Matches 143	Conservative 29	Mismatches 59	Indels 10	Gaps 4
QY	2	MSMLEYTLITAFELGIGIAEPHSESNVPAG---HTIPQVHWKLOHSLDITALRRARSAPA	57	
Db	1	MSMLCYLITLITLIGIIMAPKSEDNVPLGSPATDSLSTSCCKTTHALKTSINTQOHYPA	60	
QY	58	AAIAA-RVAGOTRNTVDPRLFKRRRLASPRVLESTOPPREADPQDDLEVEYGAAPENR	116	
		:	:	:
Db	61	PKKEEDQEGFSANNTIYVPKLFQKRRFQSPRLFESTOPPLSRDQSYD---DANSLNR	116	
QY	117	THRSKRSSHPLEHGEFSVCDVSWGDKTATNDIGKEVMVGEVINNSVKOYFF	176	
Db	117	NIRAR-EDHPVHNNGEISVCDVSWVWAAKNTATADIRCNVTVADVANNVNNVKQYFE	175	
QY	177	ETKCDPNPVDSGCGKIGIDSKHVNSYCTTTHFEVAKLTMDGQAAARFTRIDACYLSR	236	
Db	176	EFKCNPNPVPPLGCGIDARHWNSTCTTTFNFVKALTMEGNAGNSMRFTRIDACYLSR	235	
QY	237	K 237		

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Db          236 K 236

RESULT 11
09TTC3
ID          09TTC3          PRELIMINARY;          PRT;          87 AA.
AC          09TTC3.
DT          01-MAY-2000 (TREMblrel. 13, Created)
DT          01-MAY-2000 (TREMblrel. 13, Last sequence update)
DT          01-JUN-2001 (TREMblrel. 17, Last annotation update)
DE          Beta nerve growth factor (Fragment).
GN          NGF.
OS          Cervus elaphus scoticus.
OC          Euryarchaei; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC          Mammalia; Euthera; Cetartiodactyla; Ruminantia; Pecora; Cervoidae.
OC          Cervidae; Cervinae; Cervus.
OX          NCBI_TaxID=109627;
RN          (1)
RP          SEQUENCE FROM N.A.
RA          Robertson T.M., Stanton J.L., Clark D.E., Sheard P.W., Harris A.J.,
RA          Suttle J.M.;
RT          "NGF expression in Antler.":
RT          Submitted (APR-1999) to the EMBL/GenBank/DBJ databases.
DR          EMBL; AF145043; AF171235.1; -.
DR          HSSP; P01139; 1BET.
DR          InterPro; IPR002072; NGF.
DR          Pfam; PF00243; NGF; 1.
DR          PRINTS; PRO0268; NGF; 1.
DR          ProDom; PD002052; NGF; 1.
DR          SMART; SM00140; NGF; 1.
DR          PROSITE; PS00248; NGF_1; 1.
DR          PROSITE; PS0270; NGF_2; 1.
DR          NON_TER          1
FT          NON_TER          87
SQ          SEQUENCE          87 AA;          9876 MW;          17EE06E49A7A7A0A4 CRC64;

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Query Match          36.2%; Score 462; DB 6; Length 87;
Best Local Similarity 96.6%; Pred. No. 4,4e-38;
Matches 84; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 139 SYSVWVGDTTDTTDJDKGEVNLGEVNIINSVFEKQYFFETKCRDPNPVDSGCGRIDSKHM 198
|||||
1 SYSVWVGDKTTTDTTDJDKGEVNLGEVNIINSVFKQYFFETKCRDPNPVDSGCGRIDAKHM 60
|||||

QY 199 NSYCTTHTFEVKALTMDSGKQAAAREIR 225
|||||
61 NSYCTTHTFEVKALTMDSKQAAAREIR 87
|||||

DB 61 NSYCTTHTFEVKALTMDSKQAAAREIR 87
|||||

RESULT 12
Q9P224
AC Q9P224 PRELIMINARY; PRT; 87 AA.
ID Q9P224;
DR 01-OCT-2000 (TREMBlrel. 15, Created)
DR 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE Truncated beta nerve growth factor (Fragment).
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.
OC NCBI_TaxID=9606;
XX [1]
RN SEQUENCE FROM N.A.
RP MEDLINE=95236507; PubMed=7720122;
RA Li Y., Huang B., Cai L.;
RT "Amplification, cloning and sequencing of beta nerve growth factor
RT gene in the Chinese population.";
RL Chung-Yuo I Hsueh Ko Hsueh Yuan Hsueh Pao 16:334-338(1994).
DR EMBL: S76884: AAB3414.2; -.
DR HSSP: P01139: 1BET.
DR InterPro: IPR002072; NCF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.

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DR ProdDom: PD002052; NGF; 1.
 DR SMART: SM00140; NGF; 1.
 DR PROSITE: PS50270; NGF_2; 1.
 FT NON_TER 1
 SO SEQUENCE 87 AA; 9729 MW; 45E9E27388FDEE27 CRC64;

Query Match 35.9%; Score 459; DB 4; Length 87;
 Best Local Similarity 94.3%; Pred. No. 8.6e-38;
 Matches 82; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 123 SSSHPFHRGFEPSVSVWVGDKTATTDIKGKRVWVLGEVININSYFKOYFEETKCRD 182
 DB 1 SSSHPFHRGFEPSVSVWVGDKTATTDIKGKRVWVLGEVININSYFEQYFEETKCRD 60
 QY 183 PNPVDSGCGIDSKHMSYCTTHTFV 209
 DB 61 PNPVDSGCGIDSKHMSYCTTHTLV 87

RESULT 13
 ID 09WU15 PRELIMINARY; PRT; 132 AA.
 AC 09WU15.
 DT 01-NOV-1999 (TREMBlrel. 12, Created)
 DT 01-NOV-1999 (TREMBlrel. 12, Last sequence update)
 DE 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
 DE Nerve growth factor (Fragment).
 OS Mesocricetus auratus (Golden hamster).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 OC Mesocricetus.
 OX NCBI_TaxID=10036;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Jansen H.T., Lehman M.N., Stevens P.J.;
 RT "Golden Hamster Neurotrophin and Neurotrophin Receptor cDNA.";
 RL Submitted (NOV-1998) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AF104239; AAD21010.1; -.
 FT NON_TER 1
 FT NON_TER 132
 SO SEQUENCE 132 AA; 14649 MW; 0C36EB6283252DA6 CRC64;

Query Match 35.2%; Score 449.5; DB 11; Length 132;
 Best Local Similarity 75.4%; Pred. No. 1.3e-36;
 Matches 89; Conservative 10; Mismatches 18; Indels 1; Gaps 1;

QY 2 MSMLPFTLTATFLIGIQAEPHSESNVPAGHTIPOVHTKLOHSLDPTALRRASAPAAIA 61
 DB 16 MSMLPFTLTATFLIGIQAEPHTDSIVPEGDSVPOAHMTLOHSDVDAALRRASAPASIA 75
 QY 62 ARVAGOTRNITVDPRLFKRRRLSPRVLFSTQPPREADTODLDFEVGGAAPFNRTHR 119
 DB 76 ARVAGOTRNIT-GTQLFKKRRRLSPRVLFSAQPPPTFAFDTLDFQAHGTISFNRTHR 132

RESULT 14
 ID 09N182 PRELIMINARY; PRT; 241 AA.
 AC 09N182.
 DT 01-OCT-2000 (TREMBlrel. 15, Created)
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
 DE 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
 DE Neurotrophin-3 (Fragment).
 OS Macaca fuscata (Japanese macaque).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 OC Cercopithecinae; Macaca.
 OX NCBI_TaxID=9542;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA TISSUE-BLOOD;
 RL MEDLINE=99270338; PubMed=10340513;
 RA Okuno H., Tokuyama W., Li Y.X., Hashimoto T., Miyashita Y.;

RT "Quantitative evaluation of neurotrophin and trk mRNA expression in
 RT visual and limbic areas along the occipito-temporo-hippocampal pathway
 RT in adult macaque monkeys.";
 RL J. Comp. Neurol. 408:378-398(1999).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE-BLOOD;
 RA Hashimoto T., Okuno H., Tokuyama W., Li Y.X., Miyashita Y.;
 RT "Expression of brain-derived neurotrophic factor, neurotrophin-3 and
 RT their receptor messenger RNAs in monkey rhinal cortex.";
 RL Neuroscienc 0:0-0(2000).
 DR EMBL: AF222683; AAF33791.1; -.
 DR HSSP: P20783; 188K.
 DR InterPro: IPR002072; NGF.
 DR Pfam: PF00243; NGF; 1.
 DR PRINTS: PR00268; NGF.
 DR ProdDom: PD002052; NGF; 1.
 DR SMART: SM00140; NGF; 1.
 DR PROSITE: PS00248; NGF_1; 1.
 DR PROSITE: PS50270; NGF_2; 1.
 FT NON_TER 1
 FT NON_TER 241
 SO SEQUENCE 241 AA; 27803 MW; AB95E457C7B07113 CRC64;

Query Match 33.4%; Score 426.5; DB 6; Length 241;
 Best Local Similarity 39.1%; Pred. No. 5.1e-34;
 Matches 97; Conservative 35; Mismatches 85; Indels 31; Gaps 6;

QY 5 LFVYTLTATFLIGIQAEPHSESNVPAGHTIPOV-----HWTKLOHSLDPTAL 49
 DB 1 LFVYTLTATFLIGIQAEPHSESNVPAGHTIPOV-----HWTKLOHSLDPTAL 60
 QY 50 RRA-----RSAPAAIAARVAGOTRNITVDPRLFK-KRLRSRVLFSTQPPREADT 101
 DB 61 PKAEAPREPENQOPAKSEFOPV-----IAMDTELLROQRNRSRVVLSDSTPLEPPL 114
 QY 102 QDLDEVGGAAPFNRTHRKRSRSHPIFRGFEPSVSVWVGDKTATTDIKGKRVWVL 161
 DB 115 YLMEYGVNPVVAANTSRKRAEIK-SHKGYSVCDSESLMTKSSAIDIRGHQVYVL 173
 QY 162 GEVININSYFKOYFEETKCRDPNPVDSGCGIDSKHMSYCTTHTFPYKALTM-DGKQA 220
 DB 174 GEIKTGNSPVKQYFETRCKEARPVKNCGRGIDKHMNSCKTSOTYVAFALSENKILVG 233
 QY 221 WRFIRIDT 228
 DB 234 WRWIRIDT 241

RESULT 15
 ID 091988 PRELIMINARY; PRT; 286 AA.
 AC 091988.
 DT 01-NOV-1996 (TREMBlrel. 01, Created)
 DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
 DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
 DE Neurotrophin-6 precursor.
 OS Xiphophorus maculatus (Southern platyfish), and
 OS Xiphophorus helleri.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorphae; Acanthopterygii; Percomorphae; Atherinomorpha;
 OC Cyprinodontiformes; Poeciliidae; Xiphophorus.
 OX NCBI_TaxID=8083; 8084;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA MEDLINE=95059452; PubMed=7969471;
 RA Gotz R., Koster R., Winkler C., Raulf F., Lottspeich F., Scharlt M.,
 RA Thoenen H.;
 RT "Neurotrophin-6 is a new member of the nerve growth factor family.";
 RL Nature 372:266-269(1994).
 DR EMBL: L36942; AAA61923.1; -.
 DR EMBL: L36325; AAA61922.1; -.

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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 ; Search time 16.7386 Seconds
(without alignments)
425.386 Million cell updates/sec

Title: US-10-072-681-1

Perfect score: 1277
Sequence: 1 PMSMLFTLTAFLLIGIOAE.....FIRIDTACVLSRAVRA 242

Scoring table:

BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%
Listing first 45 summaries

Database :

1: Issued_Patents_AA:*
2: /cgn2_6/prodata/1/1aa/5A.COMB.pep:*
3: /cgn2_6/prodata/1/1aa/5B.COMB.pep:*
4: /cgn2_6/prodata/1/1aa/6A.COMB.pep:*
5: /cgn2_6/prodata/1/1aa/6B.COMB.pep:*
6: /cgn2_6/prodata/1/1aa/6CTUS.COMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1277	100.0	242	4	US-09-675-503-1
2	1270	99.5	241	1	US-08-266-080B-4
3	1270	99.5	241	1	US-08-451-947-5
4	1270	99.5	241	2	US-08-424-826A-5
5	1270	99.5	241	2	US-08-595-042A-75
6	1270	99.5	241	3	US-08-970-865-1
7	1270	99.5	241	3	US-08-928-694-5
8	1270	99.5	241	4	US-09-363-573-1
9	1270	99.5	241	5	US-09-447-356-3
10	1270	99.5	241	5	PCR-US91-06950-5
11	1270	99.5	241	5	PCR-US91-06950-5
12	996	78.0	240	3	US-08-910-691-11
13	651	51.0	120	1	US-08-440-049-1
14	651	51.0	120	2	US-08-441-513A-3
15	651	51.0	120	3	US-08-581-662-31
16	651	51.0	120	4	US-08-845-541B-1
17	651	51.0	120	4	US-09-066-065A-1
18	651	51.0	120	4	US-09-447-356-1
19	651	51.0	120	4	US-09-664-295-31
20	651	51.0	120	5	PCR-US95-06918-3
21	648	50.7	120	3	US-08-970-865-2
22	648	50.7	120	4	US-09-363-573-2
23	648	50.7	121	4	US-09-675-503-2
24	648	50.7	157	4	US-09-675-922-4
25	647.5	50.7	167	4	US-09-675-922-8
26	642	50.3	119	3	US-08-753-642-2
27	642	50.3	153	4	US-09-675-922-2

28	642	50.3	163	4	US-09-675-922-6	Sequence 6, App11
29	637	49.9	120	4	US-08-845-541B-3	Sequence 3, App11
30	637	49.9	120	4	US-09-066-065A-3	Sequence 3, App11
31	634	49.6	120	4	US-08-845-541B-4	Sequence 4, App11
32	634	49.6	120	4	US-09-066-065A-4	Sequence 4, App11
33	629	49.3	120	4	US-08-845-541B-12	Sequence 12, App1
34	629	49.3	120	4	US-09-066-065A-12	Sequence 12, App1
35	628	49.2	120	4	US-08-845-541B-17	Sequence 17, App1
36	628	49.2	120	4	US-08-845-541B-20	Sequence 20, App1
37	628	49.2	120	4	US-09-066-065A-17	Sequence 17, App1
38	628	49.2	120	4	US-09-066-065A-20	Sequence 20, App1
39	626	49.0	120	4	US-08-845-541B-18	Sequence 18, App1
40	626	49.0	120	4	US-08-845-541B-21	Sequence 21, App1
41	626	49.0	120	4	US-09-066-065A-18	Sequence 18, App1
42	626	49.0	120	4	US-09-066-065A-21	Sequence 21, App1
43	623	48.8	120	4	US-08-845-541B-13	Sequence 13, App1
44	623	48.8	120	4	US-08-845-541B-19	Sequence 19, App1
45	623	48.8	120	4	US-09-066-065A-13	Sequence 13, App1

ALIGNMENTS

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RESULT 1
US-09-675-503-1
; Sequence 1, Application US/09675503
; Patent No. 6423831
; GENERAL INFORMATION:
; APPLICANT: Burton, Louis E.
; APPLICANT: Schmelzer, Charles H.
; APPLICANT: Beck, Joanne T.
; TITLE OF INVENTION: ISOLATION OF NEUROTROPHINS FROM A
; TITLE OF INVENTION: MIXTURE CONTAINING OTHER PROTEINS AND NEUROTROPHIN VARIANTS
; FILE REFERENCE: GEMENT.037C2
; CURRENT APPLICATION NUMBER: US/09/675, 503
; CURRENT FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: 60/030838
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: 60/047855
; PRIOR FILING DATE: 1997-05-29
; PRIOR APPLICATION NUMBER: 08/970865
; PRIOR FILING DATE: 1997-11-14
; PRIOR APPLICATION NUMBER: 09/363573
; PRIOR FILING DATE: 1999-07-29
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 242
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-675-503-1
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Query Match 100.0%; Score 1277; DB 4; Length 242;
Best Local Similarity 100.0%; Pred. No. 1.7e-143;
Matches 242; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 1 PMSMLFTLTAFLLIGIOAEPHSESNYPAGHTIPQVHMTKLOHSLDPLRRARSAPAAI 60
QY 61 AARVAGCTRTITVDPRLFKRRRLSPVLESTQPPRAADTODLDFEVGGAAPFNRTHRS 120
DB 61 AARVAGCTRTITVDPRLFKRRRLSPVLESTQPPRAADTODLDFEVGGAAPFNRTHRS 120
QY 121 KRSSHPIFRGEPESVCDYSVWVGDKTTATDJKGKEVMVLGEVNINNSVFKQFFETKC 180
DB 121 KRSSHPIFRGEPESVCDYSVWVGDKTTATDJKGKEVMVLGEVNINNSVFKQFFETKC 180
QY 181 RDPNPVDSGCGRGIDSKHMNSYCTTHTFVKALTMDSGQAAMRFIRIDTACVLSRAVR 240
DB 181 RDPNPVDSGCGRGIDSKHMNSYCTTHTFVKALTMDSGQAAMRFIRIDTACVLSRAVR 240
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OY 241 RA 242
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Db 241 RA 242

RESULT 2
US-08-266-080B-4
; Sequence 4, Application US/08266080B
; Patent No. 5606031
; GENERAL INFORMATION:
; APPLICANT: Jack Lille
; APPLICANT: Tadahiko Kohno
; APPLICANT: Duane Bonam
; APPLICANT: Mary S. Rosendahl
; TITLE OF INVENTION: Production of Biologically Active
; TITLE OF INVENTION: Recombinant Neurotrophic Protein
; NUMBER OF SEQUENCES: 13
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Swanson & Bratschun, L.L.C.
; STREET: 8400 E. Prentice Avenue, Suite 200
; CITY: Englewood
; STATE: Colorado
; COUNTRY: USA
; ZIP: 80111
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 5.25 inch, 360 Kb storage
; COMPUTER: IBM compatible
; OPERATING SYSTEM: MS-DOS
; SOFTWARE: Wordperfect 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/266,080B
; FILING DATE: 27-JUNE-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/240,122
; FILING DATE: 09-MAY-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/087,912
; FILING DATE: 06-JULY-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/680,681
; FILING DATE: 04-APRIL-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/594,126
; FILING DATE: 09-OCT-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/547,750
; FILING DATE: 02-JULY-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/505,441
; FILING DATE: 06-APRIL-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Barry J. Swanson
; REGISTRATION NUMBER: 33,215
; REFERENCE/DOCKET NUMBER: SYNE200CS
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (303) 793-3333
; TELEFAX: (303) 793-3433
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 241 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; FEATURE:
; NAME/KEY: Inferred amino acid sequence of human NGF
; US-08-266-080B-4

Query Match 99.5%; Score 1270; DB 1; Length 241;
Best Local Similarity 100.0%; Pred. No. 1,1e-142;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 2 MSMLPFTLTATFLIGIOAPHSSESNVPAGHTTPOVHWTKLOHSLDPLARRASAPAAATA 61
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Db 1 MSMLPFTLTATFLIGIOAPHSSESNVPAGHTTPOVHWTKLOHSLDPLARRASAPAAATA 60

OY 62 ARVAGQTRNITVDPRLEFKRRRLRSPRVLFSTQPPREADTODLDFEVGGAFFNRTRRSK 121
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Db 61 ARVAGQTRNITVDPRLEFKRRRLRSPRVLFSTQPPREADTODLDFEVGGAFFNRTRRSK 120
OY 122 RSSHPPIFHRRGEFSVCSVSVMGDKTTATPDIKGEVWVGEVNIINNSVFQYFFETKCR 181
|||
Db 121 RSSHPPIFHRRGEFSVCSVSVMGDKTTATPDIKGEVWVGEVNIINNSVFQYFFETKCR 180
OY 182 DPNPVDSCRGIDSKHNNSYCTTHTFEVKALTMGQKQAMRFIRIDPACVLSRKAARR 241
|||
Db 181 DPNPVDSCRGIDSKHNNSYCTTHTFEVKALTMGQKQAMRFIRIDPACVLSRKAARR 240
OY 242 A 242
|
Db 241 A 241

RESULT 3
US-08-451-947-5
; Sequence 5, Application US/08451947
; Patent No. 5702906
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Paltn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/451,947
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-JAN
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: 666P2C1D2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/952-9861
; TELEFAX: 415/952-9861
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 241 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; US-08-451-947-5

Query Match 99.5%; Score 1270; DB 1; Length 241;
Best Local Similarity 100.0%; Pred. No. 1,1e-142;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	2	MSMFEYTLITAFLLGICDAEPHSESNVPA	GHTIPVWHTKLOHSLDTPLRARASAPAA	61
Db	1	MSMFLYTLITFLIGICDAEPHSESNVPA	GHTIPVWHTKLOHSLDTPLRARASAPAA	60
Qy	62	ARVAGQFRNITVDRLERLKKRRRLSR	PVLFSTQPREADATQDDLEFVGGAAPEN	121
Db	61	ARVAGQFRNITVDRLERLKKRRRLSR	PVLFSTQPREADATQDDLEFVGGAAPEN	120
Qy	122	RSSHPIFHRESEFVCSVSWVGDKT	TADNICKEVWNLGEVWINSVVKQYFE	181
Db	121	RSSHPIFHRESEFVCSVSWVGDKT	TADNICKEVWNLGEVWINSVVKQYFE	180
Qy	182	DPNPVDSGCRGIDSKHWNYSCTT	HTFEVKALITMDGQAANRFIRIDPAC	241
Db	181	DPNPVDSGCRGIDSKHWNYSCTT	HTFEVKALITMDGQAANRFIRIDPAC	240
Qy	242	A	242	
Db	241	A	241	

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RESULT 4
US-08-424-826A-5
; Sequence 5, Application US/08424826A
; Patent No. 5830858
; GENERAL INFORMATION:
; APPLICANT: Rosenthal, Arnon
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 98
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Winpatlin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/424,826A
; FILING DATE: 19-Apr-1995
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/240387
; FILING DATE: 10-May-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-Jan-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 25-Sep-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, PhD., Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P0666P1C2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 241 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
;
Query Match 99.5%; Score 1270; DB 2; Length 241;
Best Local Similarity 100.0%; Pred. No. 1,1e-142;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0
US-08-424-826A-5

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Qy	2	MSMFLYTLITLFLIGIAEHPSESNVPAQHTIPVNHHTKLOHSIDTLRRARBSAPAAIA	61
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Qy	62	ARVAGOTNITVDPRLFKRRRLSRPVLFSTOPEAREADOTDIDFEVGAAPFNTHRSK	121
Db	61	ARVAGOTNITVDPRLFKRRRLSRPVLFSTOPEAREADOTDIDFEVGAAPFNTHRSK	120
Qy	122	RSSHPRIHREESVCSVSVMWODKTTANDIKKEKVMVLGEVNNINSVKQFFFEFKCR	181
Db	121	RSSHPRIHREESVCSVSVMWODKTTANDIKKEKVMVLGEVNNINSVKQFFFEFKCR	180
Qy	182	DPNPVDSGCRGIDSKHNMNSYCTTHTHFVKALITMDGKOANRFRIRIDACVCVLSRKAVR	241
Db	181	DPNPVDSGCRGIDSKHNMNSYCTTHTHFVKALITMDGKOANRFRIRIDACVCVLSRKAVR	240
Qy	242	A 242	
Db	241	A 241	

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RESULT 5
US-08-595-043A-75
; Sequence 75, Application US/08595043A
; Patent No. 5935824
GENERAL INFORMATION:
APPLICANT: SGARLATO, GREGORY D.
TITLE OF INVENTION: PROTEIN EXPRESSION SYSTEM
NUMBER OF SEQUENCES: 90
CORRESPONDENCE ADDRESS:
ADDRESSEE: MEDLEN & CARROLL
STREET: 220 MONTGOMERY STREET, SUITE 2200
CITY: SAN FRANCISCO
STATE: CALIFORNIA
COUNTRY: UNITED STATES OF AMERICA
ZIP: 94104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/Ms-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/595,043A
FILING DATE: 31-JAN-1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CARROLL, PETER G.
REGISTRATION NUMBER: 32,837
REFERENCE/DOCKET NUMBER: SGAR-00371
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 705-8410
TELEFAX: (415) 397-8338
INFORMATION FOR SEQ ID NO: 75:
SEQUENCE CHARACTERISTICS:
LENGTH: 241 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-595-043A-75

Query Match          99.5%; Score 1270; DB 2; Length 241;
Best Local Similarity 100.0%; Pred. No. 1,1e-142;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      2 MSMLFYLTITAFELIGIQAEPSHSNVPAGHITIPQVHMTKLOHSLDPTALRRARSAPAIA 61
        | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
DB       1 MSMLFYLTITAFELIGIQAEPSHSNVPAGHITIPQVHMTKLOHSLDPTALRRARSAPAIA 60

QY      62 ARVAQOTNITIVDPRLFFKKRRLRSRVLYFSIQPPREADDTODLDEYVGAAFPNTHSRK 121
        | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
DB       61 ARVAQOTNITIVDPRLFFKKRRLRSRVLYFSIQPPREADDTODLDEYVGAAFPNTHSRK 120

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QY 122 RSSHPHFHGEFSCVSVWVGDKTTATDICKKEVWVLGEVININNSVFQYFEETKCR 181
DB 121 RSSHPHFHGEFSCVSVWVGDKTTATDICKKEVWVLGEVININNSVFQYFEETKCR 180
QY 182 DPNVDGCGRGIDSKHNNSTCTTHTFEVKALTMGKQAAAFIRIDPACVLSRKAVR 241
DB 181 DPNVDGCGRGIDSKHNNSTCTTHTFEVKALTMGKQAAAFIRIDPACVLSRKAVR 240
QY 242 A 242
DB 241 A 241

RESULT 8
US-09-363-573-1
; Sequence 1, Application US/09363573
; Patent No. 6184360
; GENERAL INFORMATION:
; APPLICANT: Louis E. Burton, Charles H. Schmeizer, Joanne T. Beck
; TITLE OF INVENTION: Purification of NGF
; NUMBER OF SEQUENCES: 6
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/363,573
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/08/970,865
; FILING DATE: 14-NO. 6184360-1997
; APPLICATION NUMBER: 60/030838
; FILING DATE: 11/15/1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 60/047855
; FILING DATE: 5/29/1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Ph.D., Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P1063R2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-8674
; TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 241 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
; US-09-363-573-1

Query Match 99.5%; Score 1270; DB 4; Length 241;
Best Local Similarity 100.0%; Pred. No. 1.1e-142;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 MSMLFYTLITAFILGIAEPHSESNVPAGHTIPQVHMTKLOHSLDTALRRARSAPAAIA 61
DB 1 MSMLFYTLITAFILGIAEPHSESNVPAGHTIPQVHMTKLOHSLDTALRRARSAPAAIA 60
QY 62 ARVAGQRTNITVDPRLFKKRLRSRVLFSQPPREADTODLDFEVGAAPFNRTTHRSK 121
DB 61 ARVAGQRTNITVDPRLFKKRLRSRVLFSQPPREADTODLDFEVGAAPFNRTTHRSK 120
QY 122 RSSHPHFHGEFSCVSVWVGDKTTATDICKKEVWVLGEVININNSVFQYFEETKCR 181

DB 121 RSSHPHFHGEFSCVSVWVGDKTTATDICKKEVWVLGEVININNSVFQYFEETKCR 180
QY 182 DPNVDGCGRGIDSKHNNSTCTTHTFEVKALTMGKQAAAFIRIDPACVLSRKAVR 241
DB 181 DPNVDGCGRGIDSKHNNSTCTTHTFEVKALTMGKQAAAFIRIDPACVLSRKAVR 240
QY 242 A 242
DB 241 A 241

RESULT 9
US-09-447-356-3
; Sequence 3, Application US/09447356
; Patent No. 6395513
; GENERAL INFORMATION:
; APPLICANT: FOSTER, KEITH ALAN
; APPLICANT: DUGGAN, MICHAEL JOHN
; APPLICANT: SHONE, CLIFFORD CHARLES
; TITLE OF INVENTION: CLOSTRIDIAL TOXIN DERIVATIVES ABLE TO MODIFY PERIPHERAL
; FILE REFERENCE: 023223/0104
; CURRENT APPLICATION NUMBER: US/09/447,356
; CURRENT FILING DATE: 1999-11-22
; PRIOR APPLICATION NUMBER: 08/945,037
; PRIOR FILING DATE: 1998-01-12
; PRIOR APPLICATION NUMBER: GB 9508204.6
; PRIOR FILING DATE: 1995-04-21
; NUMBER OF SEQ. ID NOS: 11
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 3
; LENGTH: 241
; TYPE: PRT
; ORGANISM: Murline sp.
; US-09-447-356-3

Query Match 99.5%; Score 1270; DB 4; Length 241;
Best Local Similarity 100.0%; Pred. No. 1.1e-142;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 MSMLFYTLITAFILGIAEPHSESNVPAGHTIPQVHMTKLOHSLDTALRRARSAPAAIA 61
DB 1 MSMLFYTLITAFILGIAEPHSESNVPAGHTIPQVHMTKLOHSLDTALRRARSAPAAIA 60
QY 62 ARVAGQRTNITVDPRLFKKRLRSRVLFSQPPREADTODLDFEVGAAPFNRTTHRSK 121
DB 61 ARVAGQRTNITVDPRLFKKRLRSRVLFSQPPREADTODLDFEVGAAPFNRTTHRSK 120
QY 122 RSSHPHFHGEFSCVSVWVGDKTTATDICKKEVWVLGEVININNSVFQYFEETKCR 181
DB 121 RSSHPHFHGEFSCVSVWVGDKTTATDICKKEVWVLGEVININNSVFQYFEETKCR 180
QY 182 DPNVDGCGRGIDSKHNNSTCTTHTFEVKALTMGKQAAAFIRIDPACVLSRKAVR 241
DB 181 DPNVDGCGRGIDSKHNNSTCTTHTFEVKALTMGKQAAAFIRIDPACVLSRKAVR 240
QY 242 A 242
DB 241 A 241

RESULT 10
PCT-US91-06950-5
; Sequence 5, Application PC/TUS9106950
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd

CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: palin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US91/06950
FILING DATE: 19910924
CLASSIFICATION: 436
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
ATTORNEY/AGENT INFORMATION:
NAME: Hensley, Max D.
REGISTRATION NUMBER: 27,043
REFERENCE/DOCKET NUMBER: 666P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/286-1994
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 241 amino acids
TYPE: AMINO ACID
TOPOLOGY: linear
PCT-US91-06950-5

Query Match 99.5%; Score 1270; DB 5; Length 241;
Best Local Similarity 100.0%; Pred. No. 1,1e-142;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHMTKLQHSLDLTALRRASAPAAIA 61
DB 1 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHMTKLQHSLDLTALRRASAPAAIA 60
QY 62 ARVAGOTRNITVDPRLFKKRRRLRSPRVLFSTQPPREADTODLDFEVGGAAPFNTRHRSK 121
DB 61 ARVAGOTRNITVDPRLFKKRRRLRSPRVLFSTQPPREADTODLDFEVGGAAPFNTRHRSK 120
QY 122 RSSSHPIFRGEFSVCDSDSVWVGDKTTATDIDIKGEVNLGGEVNNINSYFKQYFEETKCR 181
DB 121 RSSSHPIFRGEFSVCDSDSVWVGDKTTATDIDIKGEVNLGGEVNNINSYFKQYFEETKCR 180
QY 182 DPNPVDSCRGIDSKHMNSYCTTHTFVKALTMWKGQAAMRFIRIDTACVYLRSRAVR 241
DB 181 DPNPVDSCRGIDSKHMNSYCTTHTFVKALTMWKGQAAMRFIRIDTACVYLRSRAVR 240
QY 242 A 242
DB 241 A 241

RESULT 11
PCT-US95-05423-4
Sequence 4, Application PC/TUS9505423
GENERAL INFORMATION:
APPLICANT: Jack Lile
APPLICANT: Tadahiko Kohno
APPLICANT: Duane Bonam
APPLICANT: Mary S. Rosendahl
TITLE OF INVENTION: Production of Biologically Active
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Swanson & Bratschun, L.L.C.
STREET: 8400 E. Prentice Avenue, Suite 200
CITY: Englewood
STATE: Colorado

COUNTRY: USA
ZIP: 80111
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.44 MG storage
COMPUTER: IBM compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: Mordperfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/05423
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/266,090
FILING DATE: 27-JUNE-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/240,122
FILING DATE: 09-MAY-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/087,912
FILING DATE: 06-JULY-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/680,681
FILING DATE: 04-APRIL-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/594,126
FILING DATE: 09-OCT-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/547,750
FILING DATE: 02-JULY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/505,441
FILING DATE: 06-APRIL-1990
ATTORNEY/AGENT INFORMATION:
NAME: Barry J. Swanson
REGISTRATION NUMBER: 33,215
REFERENCE/DOCKET NUMBER: SYNE200/PCT
TELECOMMUNICATION INFORMATION:
TELEPHONE: (303) 793-3333
TELEFAX: (303) 793-3433
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 241 amino acids
TYPE: amino acid
TOPOLOGY: linear
FEATURE:
NAME/KEY: Inferred amino acid sequence of human NGF
PCT-US95-05423-4

Query Match 99.5%; Score 1270; DB 5; Length 241;
Best Local Similarity 100.0%; Pred. No. 1,1e-142;
Matches 241; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHMTKLQHSLDLTALRRASAPAAIA 61
DB 1 MSMLFYTLITAFLLIGIOAEPHSESNVPAGHTIPQVHMTKLQHSLDLTALRRASAPAAIA 60
QY 62 ARVAGOTRNITVDPRLFKKRRRLRSPRVLFSTQPPREADTODLDFEVGGAAPFNTRHRSK 121
DB 61 ARVAGOTRNITVDPRLFKKRRRLRSPRVLFSTQPPREADTODLDFEVGGAAPFNTRHRSK 120
QY 122 RSSSHPIFRGEFSVCDSDSVWVGDKTTATDIDIKGEVNLGGEVNNINSYFKQYFEETKCR 181
DB 121 RSSSHPIFRGEFSVCDSDSVWVGDKTTATDIDIKGEVNLGGEVNNINSYFKQYFEETKCR 180
QY 182 DPNPVDSCRGIDSKHMNSYCTTHTFVKALTMWKGQAAMRFIRIDTACVYLRSRAVR 241
DB 181 DPNPVDSCRGIDSKHMNSYCTTHTFVKALTMWKGQAAMRFIRIDTACVYLRSRAVR 240
QY 242 A 242
DB 241 A 241

RESULT 12

US-08-910-691-11
; Sequence 11, Application US/08910691
; Patent No. 6015552
; GENERAL INFORMATION:
; APPLICANT: WATANABE, Tatsuya
; APPLICANT: YOSHITOMI, Sumie
; APPLICANT: SASADA, Reiko
; TITLE OF INVENTION: THERAPEUTIC AGENT FOR NEUTROPENIA
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: DAVID G. COMLIN; DIKE, BRONSTEIN, ROBERTS &
; STREET: 130 Water Street
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: US
; ZIP: 02109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/910,691
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/08/074,969
; FILING DATE: 19930604
; ATTORNEY/AGENT INFORMATION:
; NAME: NEUNER, George W
; REGISTRATION NUMBER: 26964
; REFERENCE/DOCKET NUMBER: 12345
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)523-3400
; TELEFAX: (617)523-6440
; TELEX: 200291 SPRE UR
; INFORMATION FOR SEQ ID NO: 11:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 240 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-910-691-11

Query Match 78.0%; Score 996; DB 3; Length 240;
Best Local Similarity 79.2%; Pred. No. 3.9e-110;
Matches 190; Conservative 19; Mismatches 29; Indels 2; Gaps 2;

QY 2 MSMTFTLTALFLGIAEPHSESNVPAGHTIPVHWTKLQHSIDLALRRKRSAPAAIA 61
DB 1 MSMTFTLTALFLGIAEPHSESNVPAGHTIPVHWTKLQHSIDLALRRKRSAPAAIA 60
QY 62 ARVAGQTRNTVDRLEFKKRLRSPVLESTQPREAADTODLFEVGAAPFNRTRSK 121
DB 61 ARVAGQTRNTVDRLEFKKRLRSPVLESTQPREAADTODLFEVGAAPFNRTRSK 120
QY 122 RSSHPIFHRGEFSVCDSSVWVGDKTTADIKKEVWVLGEVNIINNSVFQYFEETKCR 181
DB 121 RYAEHK-SHREYSVCDSESLMTVDKSAIDIRGHQVTLGEIKTGNSPVQYFEETKCR 179
QY 182 DPNVDSGCCRIDSKHNSYCTTHTFYKALTM-DGQAAMRFIRIDTACVLSKRAVR 240
DB 180 EAPVKNCGCRIGIDKHNSQCTQTYVRLTSENKILVGRWIRIDTSCVLCALSRKIGR 239

RESULT 13
US-08-440-049-3
; Sequence 3, Application US/08440049
; Patent No. 5728803
; GENERAL INFORMATION:
; APPLICANT: Urfert, Roman
; APPLICANT: Presta, Leonard G.

APPLICANT: Winslow, John W.
; TITLE OF INVENTION: PANTROPIC NEUTROTROPIC FACTORS
; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/440,049
; FILING DATE: 12-May-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/253937
; FILING DATE: 03-JUN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P0905C2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 120 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
; US-08-440-049-3

Query Match 51.0%; Score 651; DB 1; Length 120;
Best Local Similarity 100.0%; Pred. No. 1.3e-69;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 123 SSSHPIFHRGEFSVCDSSVWVGDKTTADIKKEVWVLGEVNIINNSVFQYFEETKCRD 182
DB 1 SSSHPIFHRGEFSVCDSSVWVGDKTTADIKKEVWVLGEVNIINNSVFQYFEETKCRD 60
QY 183 PNPVDSGCCRIDSKHNSYCTTHTFYKALTM-DGQAAMRFIRIDTACVLSKRAVR 242
DB 61 PNPVDSGCCRIDSKHNSYCTTHTFYKALTM-DGQAAMRFIRIDTACVLSKRAVR 120

RESULT 14
US-08-441-513A-3
; Sequence 3, Application US/08441513A
; Patent No. 5981480
; GENERAL INFORMATION:
; APPLICANT: Urfert, Roman
; APPLICANT: Presta, Leonard G.
; APPLICANT: Winslow, John W.
; TITLE OF INVENTION: Pantropic Neurotrophic Factors
; NUMBER OF SEQUENCES: 20
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/441,513A
FILING DATE: 15-May-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/253937
FILING DATE: 03-JUN-1994
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Phd., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0905C3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 120 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-441-513A-3

Query Match 51.0%; Score 651; DB 2; Length 120;
Best Local Similarity 100.0%; Pred. No. 1.3e-69;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 1 SSSHPIFHRCGFSCDSVSVWGDKTATDIDKGEVWVLGEVNIINNSVFKQYFFETKCRD 60
OY 183 PNPVDSGCGRIDSKHNSCTTHTTFVKALTMGKQAAWRFIRIDTACVCLSRKAVRRA 242
|||||
DB 61 PNPVDSGCGRIDSKHNSCTTHTTFVKALTMGKQAAWRFIRIDTACVCLSRKAVRRA 120

RESULT 15
US-08-581-662-31
Sequence 31, Application US/08581662
Patent No. 6121235
GENERAL INFORMATION:
APPLICANT: Gao, Wei-Qiang
TITLE OF INVENTION: Treatment of Balance Impairments
FILE REFERENCE: P0981
CURRENT APPLICATION NUMBER: US/08/581,662
CURRENT FILING DATE: 1995-12-29
NUMBER OF SEQ ID NOS: 36
SEQ ID NO 31
LENGTH: 120
TYPE: PRT
ORGANISM: Homo sapiens
US-08-581-662-31

Query Match 51.0%; Score 651; DB 3; Length 120;
Best Local Similarity 100.0%; Pred. No. 1.3e-69;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 123 SSSHPIFHRCGFSCDSVSVWGDKTATDIDKGEVWVLGEVNIINNSVFKQYFFETKCRD 182
|||||
DB 1 SSSHPIFHRCGFSCDSVSVWGDKTATDIDKGEVWVLGEVNIINNSVFKQYFFETKCRD 60
OY 183 PNPVDSGCGRIDSKHNSCTTHTTFVKALTMGKQAAWRFIRIDTACVCLSRKAVRRA 242
|||||
DB 61 PNPVDSGCGRIDSKHNSCTTHTTFVKALTMGKQAAWRFIRIDTACVCLSRKAVRRA 120

Search completed: December 2, 2002, 15:09:42
Job time : 17.7386 secs

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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:08:47 ; Search time 8.51114 Seconds
(without alignments)
452.778 Million cell updates/sec

Title: US-10-072-681-1

Perfect score: 1277
Sequence: 1 PMSMLEYTLTATFLIGIAQAE.....FIRIDPACVLSKRAVRRA 242

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 102317 seqs, 15924203 residues

Total number of hits satisfying chosen parameters: 102317

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :

Published Applications AA:*
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3: /cgn2_6/ptodata/1/pubppaa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubppaa/US06_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubppaa/US07_NEW_PUB.pep:*
6: /cgn2_6/ptodata/1/pubppaa/US07_PUBCOMB.pep:*
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10: /cgn2_6/ptodata/1/pubppaa/US09_PUBCOMB.pep:*
11: /cgn2_6/ptodata/1/pubppaa/US10_NEW_PUB.pep:*
12: /cgn2_6/ptodata/1/pubppaa/US10_PUBCOMB.pep:*
13: /cgn2_6/ptodata/1/pubppaa/US60_NEW_PUB.pep:*
14: /cgn2_6/ptodata/1/pubppaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1277	100.0	242	12	US-10-072-681-1
2	1270	99.5	241	8	US-08-450-842-5
3	1266	99.1	241	10	US-09-822-263-16
4	648	50.7	121	12	US-10-072-681-2
5	648	50.7	157	10	US-09-798-338-4
6	647.5	50.7	167	10	US-09-798-338-8
7	642	50.3	153	10	US-09-798-338-2
8	642	50.3	163	10	US-09-798-338-6
9	621	48.6	121	9	US-09-813-398-9
10	584	45.7	121	12	US-10-072-681-3
11	481.5	37.7	242	8	US-08-450-842-4
12	452	35.4	142	8	US-08-450-842-52
13	390	30.5	72	10	US-09-848-664-21
14	388.5	30.4	119	10	US-09-745-032-6
15	388.5	30.4	119	10	US-09-742-600-6
16	388.5	30.4	119	10	US-09-872-090-6
17	388.5	30.4	120	10	US-09-745-032-3
18	388.5	30.4	120	10	US-09-742-600-3
19	388.5	30.4	120	10	US-09-872-090-3

20	387.5	30.3	117	10	US-09-745-032-7	Sequence 7, Appl1
21	387.5	30.3	117	10	US-09-742-600-7	Sequence 7, Appl1
22	387.5	30.3	117	10	US-09-872-090-7	Sequence 7, Appl1
23	387.5	30.3	118	10	US-09-745-032-5	Sequence 5, Appl1
24	387.5	30.3	118	10	US-09-742-600-5	Sequence 5, Appl1
25	387.5	30.3	118	10	US-09-872-090-5	Sequence 5, Appl1
26	383.5	30.0	120	10	US-09-745-032-1	Sequence 1, Appl1
27	383.5	30.0	120	10	US-09-742-600-1	Sequence 1, Appl1
28	383.5	30.0	120	10	US-09-872-090-1	Sequence 1, Appl1
29	376.5	29.5	120	9	US-09-813-398-11	Sequence 11, Appl1
30	373.5	29.2	120	12	US-10-072-681-5	Sequence 5, Appl1
31	363	28.4	247	8	US-08-450-842-3	Sequence 3, Appl1
32	337.5	26.4	120	10	US-09-745-032-10	Sequence 10, Appl1
33	337.5	26.4	120	10	US-09-742-600-10	Sequence 10, Appl1
34	337.5	26.4	210	8	US-08-450-842-2	Sequence 2, Appl1
35	333.5	26.1	120	10	US-09-745-032-9	Sequence 9, Appl1
36	333.5	26.1	120	10	US-09-742-600-9	Sequence 9, Appl1
37	329.5	25.8	168	8	US-08-450-842-6	Sequence 6, Appl1
38	327.5	25.6	120	10	US-09-745-032-8	Sequence 8, Appl1
39	327.5	25.6	120	10	US-09-742-600-8	Sequence 8, Appl1
40	323.5	25.3	130	8	US-08-450-842-47	Sequence 47, Appl1
41	311.5	24.4	119	12	US-10-072-681-4	Sequence 4, Appl1
42	310	24.3	132	8	US-08-450-842-51	Sequence 51, Appl1
43	309.5	24.2	120	9	US-09-813-398-10	Sequence 10, Appl1
44	306.5	24.0	130	8	US-08-450-842-23	Sequence 23, Appl1
45	304.5	23.8	130	8	US-08-450-842-22	Sequence 22, Appl1

ALIGNMENTS

RESULT 1
US-10-072-681-1
; Sequence 1, Application US/10072681
; Patent No. US20020137893A1
; GENERAL INFORMATION:
; APPLICANT: Burton, Louis E.
; APPLICANT: Schmeizler, Charles H.
; APPLICANT: Beck, Joanne T.
; TITLE OF INVENTION: PURIFICATION OF NGF
; FILE REFERENCE: GENENT. 037C3
; CURRENT APPLICATION NUMBER: US/10/072, 681
; CURRENT FILING DATE: 2002-02-08
; PRIOR APPLICATION NUMBER: 60/030838
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: 60/047855
; PRIOR FILING DATE: 1997-05-29
; PRIOR APPLICATION NUMBER: 08/970865
; PRIOR FILING DATE: 1997-11-14
; PRIOR APPLICATION NUMBER: 09/363573
; PRIOR FILING DATE: 1999-07-29
; PRIOR APPLICATION NUMBER: 09/675, 503
; PRIOR FILING DATE: 2000-09-29
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 242
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-072-681-1

Query Match 100.0%; Score 1277; DB 12; Length 242;
Best Local Similarity 100.0%; Pred. No. 1.8e-127;
Matches 242; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PMSMLEYTLTATFLIGIAQAEPHSSSNYPAGHTTIPQVHWTKLQSLDPAALRRASAPAAI 60
DB 1 PMSMLEYTLTATFLIGIAQAEPHSSSNYPAGHTTIPQVHWTKLQSLDPAALRRASAPAAI 60
QY 61 AARVAGOTRITVDPRLFKRRRLRSPPVLPSTPPRAADPTODLDFEVGGAAPFNRRHS 120
DB 61 AARVAGOTRITVDPRLFKRRRLRSPPVLPSTPPRAADPTODLDFEVGGAAPFNRRHS 120

0y	121	KRSSHPFHFGEEFSCVDSVVMVGDKTTATNDIKGKEVMVLGEVNNINNSFKOYFEETC	180
Db	121	KRSSHPFHFGEEFSCVDSVVMVGDKTTATNDIKGKEVMVLGEVNNINNSFKOYFEETC	180
0y	181	RDPPVDSGCGIDSKHNSYCTTHTHFVALTPMDGKAAMRFIRIDTACVLSRKAVR	240
Db	181	RDPPVDSGCGIDSKHNSYCTTHTHFVALTPMDGKAAMRFIRIDTACVLSRKAVR	240
0y	241	RA 242	
Db	241	RA 242	

RESULT 2
US-08-450-842-5
; Sequence 5, Application US/08450842
US-08-450-842-5

APPLICANT: GENETECH, INC.
APPLICANT: ROSENTHAL, ARNON
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 Inch, 360 kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/450,842
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2CID3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO. 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 241 amino acids
TYPE: amino acid
TOPOLOGY: linear

Query Match	99.5%;	Score 1270;	DB 8;	Length 241;
Best Local Similarity	100.0%;	Pred. No. 9.8e-127;		
Matches 241;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;

[illegible]

QY	62	ARVAGGTNTIVDPLPEFKKRLSRDPVLEFSIQPREAADODDLEFVGGAAPFNRTIRSK	121
Db	61	ARVAGGTNTITVDPLPEFKKRLSRPVLEFSIQPREAADODDLEFVGGAAPFNRTIRSK	120
QY	122	RSSHPIHFHGEFVSVCDSVSVWVGDKTTAIDIKGEVWVLGEVINNSVFKOYFEETKCR	161
Db	121	RSSHPIHFHGEFVSVCDSVSVWVGDKTTATIDIKGEVWVLGEVINNSVFKOYFEETKCR	160
QY	162	DPNPVDSGCRGIDSKHNMYSCTTHTTTPVKALTMGCKQAAMFRITIDPACVLSRKAIVR	241
Db	161	DPNPVDSGCRGIDSKHNMYSCTTHTTTPVKALTMGCKQAAMFRITIDPACVLSRKAIVR	240
QY	242	A 242	
Db	241	A 241	

RESULT 3
US-09-822-263-16
; Sequence 16, Application US/09822263
; Patent No. US20020036598A1

```

: APPLICANT: Prayaga, Sudhirdas
: APPLICANT: Vernet, Corine
: APPLICANT: Shinkets, Richard A
: APPLICANT: Burgess, Catherine
: APPLICANT: Spytek, Kimberly
: APPLICANT: Tchernov, Velizar T
: TITLE OF INVENTION: NO. US20020036598A1el Polynucleotides and Polypeptides Encoded
: FILE REFERENCE: 15966-572 CIP1
: CURRENT APPLICATION NUMBER: US/09/822,263
: CURRENT FILING DATE: 2001-06-15
: PRIOR APPLICATION NUMBER: 09/672,665
: PRIOR FILING DATE: 2000-09-28
: PRIOR APPLICATION NUMBER: 60/156,745
: PRIOR FILING DATE: 1999-09-30
: PRIOR APPLICATION NUMBER: 60/158,942
: PRIOR FILING DATE: 1999-10-06
: PRIOR APPLICATION NUMBER: 60/159,248
: PRIOR FILING DATE: 1999-10-13
: PRIOR APPLICATION NUMBER: 60/169,344
: PRIOR FILING DATE: 1999-12-06
: PRIOR APPLICATION NUMBER: 60/215,048
: PRIOR FILING DATE: 2000-06-29
: NUMBER OF SEQ ID NOS: 36
: SOFTWARE: PatentIn Ver. 2.1
: SEQ ID NO 16
: LENGTH: 241
: TYPE: prt
: ORGANISM: Homo sapiens
US-09-822-263-16

```

Query Match	99.1%;	Score 1266;	DB 10;	Length 241;
Best Local Similarity	99.6%;	Pred. No. 2.6e-126;		
Matches 240;	Conservative	0;	Mismatches 1;	Indels 0;
				Gaps 0;

[illegible]

Db 241 A 241

RESULT 4
US-10-072-681-2

```
; Sequence 2, Application US/10072681
; Patent No. US20020137893A1
; GENERAL INFORMATION:
; APPLICANT: Burton, Louis E.
; APPLICANT: Schmeizel, Charles H.
; APPLICANT: Beck, Joanne T.
; TITLE OF INVENTION: PURIFICATION OF NGF
; FILE REFERENCE: GENENT. 037C3
; CURRENT APPLICATION NUMBER: US/10/072,681
; CURRENT FILING DATE: 2002-02-08
; PRIOR APPLICATION NUMBER: 60/030838
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: 60/047855
; PRIOR FILING DATE: 1997-05-29
; PRIOR APPLICATION NUMBER: 08/970865
; PRIOR FILING DATE: 1997-11-14
; PRIOR APPLICATION NUMBER: 09/363573
; PRIOR FILING DATE: 1999-07-29
; PRIOR APPLICATION NUMBER: 09/675,503
; PRIOR FILING DATE: 2000-09-29
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 121
; TYPE: PRP
; ORGANISM: Homo sapien
US-10-072-681-2
```

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Query Match 50.7%; Score 648; DB 12; Length 121;
Best Local Similarity 99.2%; Pred. No. 2e-61;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
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```
QY 123 SSSHPHRRGEFVSVDVSWGDKTTATDIDKKEVNVLGEVNNINSVFQYFETCRD 182
DB 2 SSSHPHRRGEFVSVDVSWGDKTTATDIDKKEVNVLGEVNNINSVFQYFETCRD 61
QY 183 PNPVDSGCRGIDSKHNSYCTTHTFVKALTMDSKQAMRFIRIDTACVLSKAVRA 242
DB 62 PNPVDSGCRGIDSKHNSYCTTHTFVKALTMDSKQAMRFIRIDTACVLSKAVRA 121
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RESULT 5
US-09-798-338-4

```
; Sequence 4, Application US/09798338
; Patent No. US20010020086A1
; GENERAL INFORMATION:
; APPLICANT: Hubbell, Jeffrey A.
; APPLICANT: Schense, Jason C.
; APPLICANT: Sakiyama, Shelly E.
; TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
; FILE REFERENCE: 87662-68879
; CURRENT APPLICATION NUMBER: US/09/798,338
; CURRENT FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: 09/141,153
; PRIOR FILING DATE: 1998-08-27
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 157
; TYPE: PRP
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-4
```

```
Query Match 50.7%; Score 648; DB 10; Length 157;
Best Local Similarity 92.4%; Pred. No. 2.9e-61;
Matches 121; Conservative 3; Mismatches 1; Indels 6; Gaps 1;
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```
QY 116 RTHRSKR-----SSHPHRRGEFVSVDVSWGDKTTATDIDKKEVNVLGEVNNINS 169
DB 26 RLYRSRLPVELSESSHPHRRGEFVSVDVSWGDKTTATDIDKKEVNVLGEVNNINS 85
QY 170 VFQYFETCRDPPNPVDSGCRGIDSKHNSYCTTHTFVKALTMDSKQAMRFIRIDTA 229
DB 86 VFQYFETCRDPPNPVDSGCRGIDSKHNSYCTTHTFVKALTMDSKQAMRFIRIDTA 145
QY 230 CVCVLSKAVR 240
DB 146 CVCVLSKAVR 156
```

RESULT 6
US-09-798-338-8

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; Sequence 8, Application US/09798338
; Patent No. US20010020086A1
; GENERAL INFORMATION:
; APPLICANT: Hubbell, Jeffrey A.
; APPLICANT: Schense, Jason C.
; APPLICANT: Sakiyama, Shelly E.
; TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
; FILE REFERENCE: 87662-68879
; CURRENT APPLICATION NUMBER: US/09/798,338
; CURRENT FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: 09/141,153
; PRIOR FILING DATE: 1998-08-27
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 8
; LENGTH: 167
; TYPE: PRP
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-8
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```
Query Match 50.7%; Score 647.5; DB 10; Length 167;
Best Local Similarity 75.6%; Pred. No. 3.6e-61;
Matches 127; Conservative 6; Mismatches 10; Indels 25; Gaps 3;
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```
QY 74 DP--RLFKKRLRSPRVFSTQPPREADTDQDLEFVGGAAPFNRTHSKRSSHPHRRG 132
DB 23 DPKRLYRSRLPVELPLIKKP-----VELE-----SSHPHRRG 58
QY 133 EFSVDSVSWGDKTTATDIDKKEVNVLGEVNNINSVFQYFETCRDPPNPVDSGCRG 192
DB 59 EFSVDSVSWGDKTTATDIDKKEVNVLGEVNNINSVFQYFETCRDPPNPVDSGCRG 118
QY 193 IDSKHNSYCTTHTFVKALTMDSKQAMRFIRIDTACVLSKAVR 240
DB 119 IDSKHNSYCTTHTFVKALTMDSKQAMRFIRIDTACVLSKAVR 166
```

RESULT 7
US-09-798-338-2

```
; Sequence 2, Application US/09798338
; Patent No. US20010020086A1
; GENERAL INFORMATION:
; APPLICANT: Hubbell, Jeffrey A.
; APPLICANT: Schense, Jason C.
; APPLICANT: Sakiyama, Shelly E.
; TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
; FILE REFERENCE: 87662-68879
; CURRENT APPLICATION NUMBER: US/09/798,338
; CURRENT FILING DATE: 2001-03-02
```

```
;; PRIOR APPLICATION NUMBER: 09/141,153
;; PRIOR FILING DATE: 1998-08-27
;; NUMBER OF SEQ ID NOS: 9
;; SOFTWARE: Patentin Ver. 2.0
;; SEQ ID NO 2
;; LENGTH: 153
;; TYPE: PRT
;; ORGANISM: Artificial Sequence
;; FEATURE:
;; OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-2

Query Match          50.3%; Score 642; DB 10; Length 153;
Best Local Similarity 100.0%; Pred. No. 1.2e-60;
Matches 118; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 123 SSSHPFHRGGEFVSCDSVSWVGDKTTATDIDKGEVNLGEVNNINSVFKQYFEETKCRD 182
      |||
Db 35 SSSHPFHRGGEFVSCDSVSWVGDKTTATDIDKGEVNLGEVNNINSVFKQYFEETKCRD 94

Oy 183 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSRKAVR 240
      |||
Db 95 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSRKAVR 152

RESULT 8
US-09-798-338-6
;; Sequence 6, Application US/09798338
;; Patent No. US20010020086A1
;; GENERAL INFORMATION:
;; APPLICANT: Hubbell, Jeffrey A.
;; APPLICANT: Schense, Jason C.
;; APPLICANT: Sakiyama, Shelly E.
;; TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
;; FILE REFERENCE: 87662-68879
;; CURRENT APPLICATION NUMBER: US/09/798-338
;; PRIOR FILING DATE: 2001-03-02
;; PRIOR APPLICATION NUMBER: 09/141,153
;; PRIOR FILING DATE: 1998-08-27
;; NUMBER OF SEQ ID NOS: 9
;; SOFTWARE: Patentin Ver. 2.0
;; SEQ ID NO 6
;; LENGTH: 163
;; TYPE: PRT
;; ORGANISM: Artificial Sequence
;; FEATURE:
;; OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-6

Query Match          50.3%; Score 642; DB 10; Length 163;
Best Local Similarity 100.0%; Pred. No. 1.3e-60;
Matches 118; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 123 SSSHPFHRGGEFVSCDSVSWVGDKTTATDIDKGEVNLGEVNNINSVFKQYFEETKCRD 182
      |||
Db 45 SSSHPFHRGGEFVSCDSVSWVGDKTTATDIDKGEVNLGEVNNINSVFKQYFEETKCRD 104

Oy 183 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSRKAVR 240
      |||
Db 105 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSRKAVR 162

RESULT 9
US-09-813-398-9
;; Sequence 9, Application US/09813398
;; Patent No. US20020169292A1
;; GENERAL INFORMATION:
;; APPLICANT: Bruce D. Weintrub
;; APPLICANT: Mariusz W. Skudlinski
;; APPLICANT: University of Maryland
```

```
;; TITLE OF INVENTION: CYSTINE KNOT GROWTH FACTOR MUTANTS
;; FILE REFERENCE: UOPMD 003C1
;; CURRENT APPLICATION NUMBER: US/09/813,398
;; CURRENT FILING DATE: 2001-03-20
;; PRIOR APPLICATION NUMBER: PCT/US99/05908
;; PRIOR FILING DATE: 1999-03-19
;; PRIOR APPLICATION NUMBER: PCT/US98/19772
;; PRIOR FILING DATE: 1998-09-22
;; NUMBER OF SEQ ID NOS: 41
;; SOFTWARE: FastSeq for Windows Version 4.0
;; SEQ ID NO 9
;; LENGTH: 121
;; TYPE: PRT
;; ORGANISM: HOMO SAPIEN
US-09-813-398-9

Query Match          48.6%; Score 621; DB 9; Length 121;
Best Local Similarity 95.8%; Pred. No. 1.4e-58;
Matches 115; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Oy 123 SSSHPFHRGGEFVSCDSVSWVGDKTTATDIDKGEVNLGEVNNINSVFKQYFEETKCRD 182
      |||
Db 2 SSSHPFHRGGEFVSCDSVSWVGDKTTATDIDKGEVNLGEVNNINSVFKQYFEETKCRD 61

Oy 183 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSRKAVR 242
      |||
Db 62 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSRKAVR 121

RESULT 10
US-10-072-681-3
;; Sequence 3, Application US/10072681
;; Patent No. US20020137893A1
;; GENERAL INFORMATION:
;; APPLICANT: Burton, Louis E.
;; APPLICANT: Schmelzer, Charles H.
;; APPLICANT: Beck, Joanne T.
;; TITLE OF INVENTION: PURIFICATION OF NGR
;; FILE REFERENCE: GENEPT 037C3
;; CURRENT APPLICATION NUMBER: US/10/072,681
;; CURRENT FILING DATE: 2002-02-08
;; PRIOR APPLICATION NUMBER: 60/030838
;; PRIOR FILING DATE: 1996-11-15
;; PRIOR APPLICATION NUMBER: 60/047855
;; PRIOR FILING DATE: 1997-05-29
;; PRIOR APPLICATION NUMBER: 08/970865
;; PRIOR FILING DATE: 1997-11-14
;; PRIOR APPLICATION NUMBER: 09/363573
;; PRIOR FILING DATE: 1999-07-29
;; PRIOR APPLICATION NUMBER: 09/675,503
;; PRIOR FILING DATE: 2000-09-29
;; NUMBER OF SEQ ID NOS: 6
;; SOFTWARE: FastSeq for Windows Version 4.0
;; SEQ ID NO 3
;; LENGTH: 121
;; TYPE: PRT
;; ORGANISM: mouse
US-10-072-681-3

Query Match          45.7%; Score 584; DB 12; Length 121;
Best Local Similarity 89.9%; Pred. No. 1.2e-54;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

Oy 123 SSSHPFHRGGEFVSCDSVSWVGDKTTATDIDKGEVNLGEVNNINSVFKQYFEETKCRD 182
      |||
Db 2 SSSHPFHRGGEFVSCDSVSWVGDKTTATDIDKGEVNLGEVNNINSVFKQYFEETKCRD 61

Oy 183 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSRKAVR 241
      |||
Db 62 SNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSRKAVR 120

RESULT 11
```

US-08-450-842-4
; Sequence 4, Application US/08450842
; Patent No. US20020045576A1
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUTROPHILIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/450,842
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-JAN
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: 666P2C1D3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
; TELEFAX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 257 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
US-08-450-842-4

Query Match 37.7%; Score 481.5; DB 8; Length 257;
Best Local Similarity 40.7%; Pred. No. 2,3e-43;
Matches 107; Conservative 37; Mismatches 88; Indels 31; Gaps 6;

2 MSGLFYLTAFLIGIAQAPHSSENVPAHTIPQV-----HMTKLGHSID 46
1 MSLEFVITLAVLIRGIGNNMDORSLEPDSLSLITKLQADILKKLSKOMYDVAKENQ 60
47 TALRRA-----RSAPAAAIARVAGQTRNITVDPRLFK-KRRLSPRYLESTQPPREA 98
61 STLPKREAPREPRGSPAKSAFOPV-----IAMDTELLRQGRRYVSPRYLLSDSTPLRP 114
99 ADTODLDFEYGAAPNRKRHRSSHPILFHGSEVCDSDSVWYGDKTATDIDGKEY 158
115 PPLYLMEDYVSPVANKRTRRRRYAEHK-SHRGEYSVCDSESLVWTDKSSAIDINGHOV 173
159 MYLGEVINNSVYKOFYFETKCDPNDPVDGCRGIDSKHNSYCTTHTFVKALTMDCR 217
174 TVLGEYKRTGNSPKOYFYETRCREAPRVKNGCGIDKHHNSCKTSQTYVRLAISNNK 233
218 QAAMRPIRIDTACVCLSKRAVR 240

DB 234 LVGMWRIRIDTSCVCLSKRIGR 256

RESULT 12
US-08-450-842-52
; Sequence 52, Application US/08450842
; Patent No. US20020045576A1
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUTROPHILIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/450,842
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-JAN
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: 666P2C1D3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
; TELEFAX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 52:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 142 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
US-08-450-842-52

Query Match 35.4%; Score 457; DB 8; Length 142;
Best Local Similarity 64.1%; Pred. No. 1,3e-40;
Matches 91; Conservative 12; Mismatches 17; Indels 22; Gaps 4;

123 SSSHPILFHGSEVCDSDSVWYGDKTATDIDGKEYVNLGEVINNSV----- 170
1 SSSHPILFHGSEVCDSDSVWYGDKTATDIDGKEYVNLGEVINNSVYLGEVPAAGGSP 60
171 FKOYFETKCRDPNPDV-----SGCRGIDSKHNSYCTTHTFVKALTMDCR-OAAMR 222
61 LKOYFETKCRKADNEEGCGAGGCGCVDNRHNVSECKAKOSYVRLADAOGRVGR 120
223 FTRIDFA--CVCVLSKRAVRA 242
121 WIRIDPACVCLSKRAVRA 142

RESULT 13

US-09-848-664-21
; Sequence 21, Application US/09848664
; Patent No. US20020146414A1
; GENERAL INFORMATION:
; APPLICANT: Sakiyama-Elbert, Shelly E.
; APPLICANT: Hubbell, Jeffrey A.
; TITLE OF INVENTION: Controlled Release of No. US20020146414A1-Heparin Binding Growth
; FILE REFERENCE: ETH 108
; CURRENT APPLICATION NUMBER: US/09/848,664
; CURRENT FILING DATE: 2001-05-03
; PRIOR APPLICATION NUMBER: 09/298,084
; PRIOR FILING DATE: 1999-04-22
; NUMBER OF SEQ ID NOS: 31
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 21
; LENGTH: 72
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-848-664-21

Query Match 30.5%; Score 390; DB 10; Length 72;
Best Local Similarity 100.0%; Pred. No. 1.8e-34;
Matches 72; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 123 SSSHHIFHGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFKOYFEETKCD 182
Db 1 SSSHHIFHGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFKOYFEETKCD 60
Oy 183 PNPVDSGCRGID 194
Db 61 PNPVDSGCRGID 72

RESULT 14
US-09-745-032-6
; Sequence 6, Application US/09745032
; Patent No. US20010027179A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hershenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/745,032
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
; LENGTH: 119
; TYPE: PRT
; ORGANISM: Human
US-09-745-032-6

Query Match 30.4%; Score 388.5; DB 10; Length 119;
Best Local Similarity 61.6%; Pred. No. 5.2e-34;
Matches 69; Conservative 18; Mismatches 24; Indels 1; Gaps 1;

Oy 130 HRGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFKOYFEETKCDPNPVD 189
Db 7 HRGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFKOYFEETKCDPNPVD 66
Oy 190 CRGIDSKHNSCYCTTHTFVKALTM-D-GKQAAFRIRIDTACVLSKRAVR 240
Db 67 CRGIDSKHNSCYCTTHTFVKALTM-D-GKQAAFRIRIDTACVLSKRAVR 118

RESULT 15

US-09-742-600-6
; Sequence 6, Application US/09742600
; Patent No. US20020010135A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hershenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/742,600
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
; LENGTH: 119
; TYPE: PRT
; ORGANISM: Human
US-09-742-600-6

Query Match 30.4%; Score 388.5; DB 10; Length 119;
Best Local Similarity 61.6%; Pred. No. 5.2e-34;
Matches 69; Conservative 18; Mismatches 24; Indels 1; Gaps 1;

Oy 130 HRGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFKOYFEETKCDPNPVD 189
Db 7 HRGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFKOYFEETKCDPNPVD 66
Oy 190 CRGIDSKHNSCYCTTHTFVKALTM-D-GKQAAFRIRIDTACVLSKRAVR 240
Db 67 CRGIDSKHNSCYCTTHTFVKALTM-D-GKQAAFRIRIDTACVLSKRAVR 118

Search completed: December 2, 2002, 15:14:33
Job time : 9.5114 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:37 ; Search time 24.1149 Seconds
(Without alignments)
668.605 Million cell updates/sec

Title: US-10-072-681-2

Perfect score: 658
Sequence: 1 PSSSHPFRHGEFVSVCDSVS.....FIRIDPACVCLSKAKARRA 121

Scoring table: BL0SUM62
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

1: /SID2/gcgdata/geneseq/emb1/AA1980.DAT:*
2: /SID2/gcgdata/geneseq/emb1/AA1981.DAT:*
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4: /SID2/gcgdata/geneseq/emb1/AA1983.DAT:*
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22: /SID2/gcgdata/geneseq/emb1/AA2001.DAT:*
23: /SID2/gcgdata/geneseq/emb1/AA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	648	98.5	120	20	AAW81117
2	648	98.5	120	21	AAW81117
3	648	98.5	120	22	AAW81117
4	648	98.5	120	22	AAW81117
5	648	98.5	120	22	AAW81117
6	648	98.5	120	22	AAW81117
7	648	98.5	120	22	AAW81117
8	648	98.5	120	22	AAW81117
9	648	98.5	120	22	AAW81117
10	648	98.5	120	22	AAW81117

11	648	98.5	241	16	AAW66688	Human nerve growth
12	648	98.5	241	18	AAW26237	Human preproNGF.
13	648	98.5	241	19	AAW48886	Human prepro-nerve
14	648	98.5	241	20	AAW07303	Human nerve growth
15	648	98.5	241	22	AAW67865	Amino acid sequenc
16	648	98.5	241	22	AAW66929	Human NGF. Homo s
17	648	98.5	241	23	AAE18904	Human beta nerve g
18	648	98.5	241	23	ABW04994	Human beta nerve g
19	648	98.5	245	5	AAW40038	Sequence encoded b
20	648	98.5	307	14	AAW45241	Human pre-pro nerv
21	648	98.5	307	14	AAW69725	Human beta-nerve g
22	644	97.9	307	14	AAW37799	Human NGF. Homo s
23	640	97.3	120	17	AAW90531	Panotropic neurotro
24	639	97.1	118	10	AAW91034	Human nerve growth
25	639	97.1	119	5	AAW40040	Sequence encoded b
26	639	97.1	119	12	AAW13064	Human NGF HindIII-
27	639	97.1	119	16	AAW74420	Nerve growth facto
28	639	97.1	119	21	AAW03347	Human beta-nerve g
29	639	97.1	129	19	AAW37539	Recombinant beta-N
30	639	97.1	129	18	AAW24145	Recombinant mnl-f
31	639	97.1	152	23	AAW50302	Factor XIIIa subst
32	639	97.1	153	22	AAW67676	Amino acid sequenc
33	639	97.1	154	13	AAW22751	Human growth hormo
34	639	97.1	156	23	AAW50303	Nerve growth facto
35	639	97.1	157	21	AAW01596	Nerve growth facto
36	639	97.1	157	22	AAW67677	Amino acid sequenc
37	639	97.1	157	23	AAW85725	Synthetic nerve gr
38	639	97.1	162	23	AAW50300	Factor XIIIa subst
39	639	97.1	163	22	AAW67678	Amino acid sequenc
40	639	97.1	166	23	AAW50301	Nerve growth facto
41	639	97.1	167	22	AAW67679	Amino acid sequenc
42	639	97.1	222	21	AAW90884	Human proNGF proce
43	639	97.1	261	10	AAW91299	Human nerve growth
44	639	97.1	262	7	AAW61033	Human beta-nerve g
45	634	96.4	120	20	AAW81119	Nerve growth facto

ALIGNMENTS

RESULT 1	AAW81117	standard; protein; 120 AA.
ID	AAW81117	
XX	AAW81117:	
AC	01-MAR-1999	(first entry)
XX		
DT		
XX		
DE		Nerve growth factor wild type.
XX		
KW		Nerve growth factor; trkB; neuron; neural disease; animal feed;
KW		neurotrophin assay; nerve cell culture media; neurotrophic factor; NT-3;
KW		trkA; trkB.
XX		
OS		Homo sapiens.
XX		
PN	WO9849308-A1.	
XX		
PD	05-NOV-1998.	
XX		
PF	23-APR-1998:	98NO-US08242.
XX		
PR	29-APR-1997:	97US-0841045.
XX	25-APR-1997:	97US-0845541.
PA	(GETH) GENENTECH INC.	
XX		
PI	Presta LG, Ufer R, Winslow JW;	
XX		
DR	WPI: 1999-009429/01.	
XX		
PT		New variants of nerve growth factor able to bind trkB - contain specified mutations and have multiple neurotrophic activities in a

PT single molecule, used for treating, e.g. peripheral neuropathy

XX
PS Example 1; Page 32-33; 53pp; English.

XX
CC Nerve growth factor was used to produce new variants of nerve growth
CC factor (NGF) with substitutions at amino acid positions: G33 and H84, and
CC one or both of V18 and V20, so that it acquires the ability to bind trkB.
CC The variants can be used to promote development, maintenance and
CC regeneration of neurons in vivo or in vitro, so can be used to treat a
CC wide range of neural diseases, e.g. Alzheimer's, Parkinson's,
CC Huntington's and Meniere's diseases; stroke; amyotrophic lateral
CC sclerosis; epilepsy; Down's syndrome; nerve deafness; Bell's palsy, or
CC specifically, peripheral neuropathy. They are also used as cognitive
CC enhancers and can also be used for diagnosis; in animal feeds; as
CC standards for neurotrophin assays; as additives for nerve cell culture
CC media; and for generation of specific antibodies. By introducing trkB
CC binding/signal inducing activity, the variants acquire the activity of
CC neurotrophic factor NT-3 while optionally retaining ability to bind trka
CC and/or B and therefore provide several activities in a single molecule,
CC with more predictable pharmacokinetic and other properties than a mixture
CC of agents each with a single activity, and better pan-neurotrophic
CC activity than known compounds.

XX
SQ Sequence 120 AA;

Query Match 98.5%; Score 648; DB 20; Length 120;
Best Local Similarity 99.2%; Pred. No. 2,3e-69;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPFHRGFEVSVDVSWVGDKTTATDIDKGEVWVLGEVNNINSVFROYFETKCRD 61
|||||
DB 1 SSSHPFHRGFEVSVDVSWVGDKTTATDIDKGEVWVLGEVNNINSVFROYFETKCRD 60
|||||

OY 62 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVLSKRAVRA 121
|||||
DB 61 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVLSKRAVRA 120
|||||

RESULT 2
AAB29141
ID AAB29141 standard; Protein; 120 AA.

XX
AC AAB29141;

XX
DT 02-FEB-2001 (first entry)

XX
DE N-terminal of neurotrophic growth factor.

XX
KW Neutrophin; trkB; trkC; ototoxicity-related balance impairment;
KW Meniere's syndrome; myringitis; otitis media;
KW acute vestibular neuronitis; herpes zoster ophthalmicus; labyrinthitis;
KW middle; labyrinthine tumour; petrositis; otosclerosis; bacteria.

XX
OS Homo sapiens.

XX
PN US6121235-A.

XX
PD 19-SEP-2000.

XX
PF 29-DEC-1995; 95US-0581662.

XX
PR 29-DEC-1995; 95US-0581662.

XX
PA (GETH) GENENTECH INC.

XX
PI Gao W;

XX
DR WPI; 2000-618200/59.

XX
PT Treating ototoxin-induced neuronal-related balance impairment and
PT promoting vestibular ganglion neuron survival prior to, upon or after
PT exposure to an ototoxin, comprises administering a trkB or trkC agonist

XX
PS Disclosure: Column 57-58; 40pp; English.

XX
CC The present invention relates to treating ototoxin-induced
CC neuronal-related balance impairment in a mammal by administering a
CC trkB or trkC agonist, particularly neurotrophin-4/5 (NT-4/5).
CC Ototoxicity-related balance impairments include Meniere's syndrome,
CC myringitis, otitis media, acute vestibular neuronitis, herpes zoster
CC ophthalmicus, labyrinthitis, middle or labyrinthine tumours, petrositis and
CC otosclerosis. NT-4/5 may also be used to treat diseases
CC induced by gram positive, gram negative and acid-fast bacteria. The
CC present sequence is a protein used in the invention.

XX
SQ Sequence 120 AA;

Query Match 98.5%; Score 648; DB 21; Length 120;
Best Local Similarity 99.2%; Pred. No. 2,3e-69;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPFHRGFEVSVDVSWVGDKTTATDIDKGEVWVLGEVNNINSVFROYFETKCRD 61
|||||
DB 1 SSSHPFHRGFEVSVDVSWVGDKTTATDIDKGEVWVLGEVNNINSVFROYFETKCRD 60
|||||

OY 62 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVLSKRAVRA 121
|||||
DB 61 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVLSKRAVRA 120
|||||

RESULT 3
AAG64994
ID AAG64994 standard; Protein; 120 AA.

XX
AC AAG64994;

XX
DT 25-SEP-2001 (first entry)

XX
DE Nerve growth factor variant related protein SEQ ID NO: 1.

XX
KW Nerve growth factor; NGF; trkB-binding activity; trka; trkB; neuropathy;
KW neuronal disorder; neurotrophin; variant; mutant; mutein; Bell's palsy;
KW amyotrophic lateral sclerosis; paralysis; neurodegenerative disease;
KW Parkinson's disease; Alzheimer's disease; multiple sclerosis.

XX
OS unidentified.

XX
PN US2001012625-A1.

XX
PD 09-AUG-2001.

XX
PF 24-APR-1998; 98US-0066065.

XX
PR 25-APR-1997; 97US-0044918.

XX
PA (PREST) PRESTA L G.
PA (URFER) URFER R.
PA (WINSLOW) WINSLOW J W.

XX
PI Presta LG, Urfer R, Winslow JW;

XX
DR WPI; 2001-464388/50.

XX
PT Nerve growth factor variants which have trkB-binding activity and
PT trkB-signal inducing activity, useful for treating a neural disorder in
PT a mammal such as peripheral neuropathy (e.g. diabetic peripheral
PT neuropathy) -

XX
PS Disclosure: Page 19; 34pp; English.

XX
CC The present invention provides a number of nerve growth factor (NGF)
CC variants with trkB-binding activity and trkB-signal inducing activity.
CC They may also be capable of binding to trka and trkB. The variants are
CC useful in the treatment of neuronal disorders, including peripheral
CC neuropathy and motor-neurone disorders, such as amyotrophic lateral

CC sclerosis, Bell's palsy, and various conditions involving spinal muscular
 CC atrophy, or paralysis. They are also useful for treating other human
 CC neurodegenerative disorders, such as Alzheimer's disease, Parkinson's
 CC disease, epilepsy, multiple sclerosis, Huntington's disease, Down's
 CC Syndrome, nerve deafness, Meniere's disease and other conditions
 CC characterized by necrosis or loss of neurones, whether central,
 CC peripheral, or motor neurones.

CC Sequence 120 AA:

Query Match 98.5%; Score 648; DB 22; Length 120;
 Best Local Similarity 99.2%; Pred. No. 2.3e-69;

Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

DB 1 SSSHPIRHRGEFSCDSVSWVGDKTTATDICKGEVAVLGEVNNNSVFRQYFETKCRD 61
 2 SSSHPIRHRGEFSCDSVSWVGDKTTATDICKGEVAVLGEVNNNSVFRQYFETKCRD 61
 |||

QY 62 PNPVDSGCRGIDSKHMNSCTTHTFVKALTMDSKQAMRIRIDTACVCLSRKAVRRA 121
 |||

DB 61 PNPVDSGCRGIDSKHMNSCTTHTFVKALTMDSKQAMRIRIDTACVCLSRKAVRRA 120

RESULT 4

AAB35944 standard; protein: 120 AA.

AC AAB35944;

DT 26-FEB-2001 (first entry)

XX NGF-Delta amino acid sequence.

XX Heparin binding; vascular graft; matrix; cell adhesion; growth factor;
 wound healing; dermal wound; wound healing; NGF-beta.

XX Unidentified.

XX WO200064481-A1.

XX 02-NOV-2000.

XX 22-APR-1999; 99MO-IB00800.

XX 22-APR-1999; 99MO-IB00800.

XX (ETHZ-) ETH ZURICH & UNIV ZURICH.

XX Sakiyama SE, Hubbell JA;

XX WPI; 2001-024627/03.

XX Matrix for controlled release of growth factor for wound healing, has
 PT substrate that attaches heparin binding peptide, protein growth factor
 PT that bind heparin with low affinity, and heparin or heparin-like
 PT polymer

XX Example 5; Page 21; 48pp; English.

XX This invention relates to a matrix comprising a substrate capable of
 CC providing attachment of a heparin binding peptide (HBP), a peptide
 CC comprising a binding domain which binds heparin with high affinity,
 CC heparin or heparin-like polymer, and a protein growth factor or peptide
 CC fragment which has a domain that binds heparin with low affinity.

CC included in the invention is a vascular graft comprising the matrix,
 CC which is capable of supporting cell adhesion. The matrix is used for
 CC delivering low heparin binding affinity growth factor proteins or
 CC peptides in a controlled manner suitable for wound healing. The matrix
 CC can be used in an article for treating dermal wounds, and in an
 CC implantable sterilized composition capable of supporting cell adhesion.

CC The present sequence represents a growth factor protein. The protein is
 CC used in an example illustrating that non-heparin-binding growth factors
 CC can be released in a controlled manner from heparin-based drug delivery

CC systems based on their low affinity for heparin.

XX Sequence 120 AA:

Query Match 98.5%; Score 648; DB 22; Length 120;
 Best Local Similarity 99.2%; Pred. No. 2.3e-69;

Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPIRHRGEFSCDSVSWVGDKTTATDICKGEVAVLGEVNNNSVFRQYFETKCRD 61
 DB 1 SSSHPIRHRGEFSCDSVSWVGDKTTATDICKGEVAVLGEVNNNSVFRQYFETKCRD 60
 |||

QY 62 PNPVDSGCRGIDSKHMNSCTTHTFVKALTMDSKQAMRIRIDTACVCLSRKAVRRA 121
 |||

DB 61 PNPVDSGCRGIDSKHMNSCTTHTFVKALTMDSKQAMRIRIDTACVCLSRKAVRRA 120

RESULT 5

AAR21851 standard; protein: 124 AA.

AC AAR21851;

DT 10-JUN-1992 (first entry)

XX Chimeric neurotrophic factor R1.

XX Human BDNF; brain derived neurotrophic factor; NGF;
 neurotrophic growth factor; Alzheimer's disease; aging; peripheral;
 peripheral neuropathies; Parkinson's disease; Huntington's chorea;
 amyotrophic lateral sclerosis; nervous system disorders.

XX Homo sapiens.

XX Key Location/Qualifiers

XX Peptide 1..4

XX Peptide /note="human BDNF preprosequence"

XX Peptide 5..124

XX Peptide /note="full mature human NGF"

XX WO9202620-A.

XX 20-FEB-1992.

XX 07-AUG-1991; 91MO-US05610.

XX 08-AUG-1990; 90US-0564929.

XX (REGG-) REGENERON PHARM INC.

XX Shooter EM, Suter U, Ip N, Squinto SP, Furch ME, Lindsay RM;
 PI Yancopoulos GD;

XX WPI; 1992-080074/10.

XX New chimeric neurotrophic factors - useful in treating nervous
 PT conditions caused by trauma, surgery, ischaemia, infection,
 PT metabolic diseases, nutritional deficiency, etc.

XX Claim 36; Fig 5; 114pp; English.

XX The sequence is that of a chimeric neurotrophic factor (NF) R1 which
 CC comprises the presequence of human brain derived neurotrophic
 CC factor (hBDNF) and the full mature sequence of human neurotrophic
 CC growth factor (hNGF). It may provide the activity of 2 NFs in a
 CC single mol. or may serve as a superagonist of an endogenous NF
 CC thereby enabling an increased biological response at lower doses.

CC It may also be useful in targeting an active cpd. to cells
 CC responsive to NF. The design of chimeric NFs, such as R1, which
 CC retain specific biological activity but which are directed to a
 CC subset of factor-responsive cells may enable treatment of neurological
 CC disorders but avoid the complications of more widespread activity
 CC of parent mols. It may be used in the treatment to eliminate

CC diseased cells, e.g. virus infected cells or tumours of nervous system
CC origin. It may also be used to treat patients whose nervous system has
CC been damaged by trauma, surgery, ischemia, infection (e.g. polio or
CC AIDS), metabolic disease, nutritional deficiency, malignancy or toxic
CC agents. Also to treat e.g. Alzheimer's disease, ageing, peripheral
CC neuropathies, Parkinson's disease, Huntington's chorea or amyotrophic
CC lateral sclerosis. The NF or antibodies to it can also be used in the
CC diagnosis and study of nervous system disorders. See also
CC AAR21852-R21874 and AAQ22080-Q22131.

XX Sequence 124 AA:

Query Match 98.5%; Score 648; DB 13; Length 124;

Best Local Similarity 99.2%; Pred. No. 2.4e-69;

Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPIFHGGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVINNSVPROYFFETKCRD 61
Db 5 SSSHPIFHGGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVINNSVPROYFFETKCRD 64
OY 62 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRKAARRA 121
Db 65 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRKAARRA 124

RESULT 6

AAR13063

ID AAR13063 standard; Protein: 241 AA.

XX AAR13063;

DT 30-SEP-1991 (first entry)

XX Human NGF Sma1-Apa1 fragment prod.

XX Expression vector; human nerve growth factor; yeast;

XX senile dementia.

XX Homo sapiens.

XX JP03139285-A.

XX 13-JUN-1991.

XX 20-DEC-1989; 89JP-0328199.

XX 27-JUL-1989; 89JP-0192581.

XX (TAKE) TAKEDA CHEMICAL IND KK.

XX WPI: 1991-218449/30.

XX N-PSDB: AAQ12638.

XX New yeast expression vector - used in prodn. of human nerve growth

XX factor from corresp. yeast.

XX Disclosure: Fig 1(1-2); 14pp; Japanese.

XX Human NGF is useful as a reagent for study of the nervous system, and

XX for treatment of senile dementia. The DNA encoding this fragment was

XX derived from the human gene or is synthesised chemically.

XX See also AAQ12639.

XX Sequence 241 AA:

Query Match 98.5%; Score 648; DB 12; Length 241;

Best Local Similarity 99.2%; Pred. No. 5.9e-69;

Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPIFHGGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVINNSVPROYFFETKCRD 61
Db 122 SSSHPIFHGGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVINNSVPROYFFETKCRD 181

OY 62 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRKAARRA 121
Db 182 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRKAARRA 241

RESULT 7

AAR1474

ID AAR1474 standard; Protein: 241 AA.

XX AAR1474;

DT 26-APR-1991 (first entry)

XX Human nerve growth factor.

XX NGF; senile dementia.

XX Homo sapiens.

XX Key Location/Qualifiers

XX Peptide 1..18

XX Protein /label- signal sequence

XX Protein /label- pro-NGF

XX Protein 122..241

XX Disulfide-bond 135..202

XX Disulfide-bond 180..230

XX Disulfide-bond 190..232

XX EPI4151-A.

XX 27-FEB-1991.

XX 17-AUG-1990; 90EP-0115815.

XX 21-AUG-1989; 89JP-0212980.

XX 20-DEC-1989; 89JP-0328198.

XX 13-APR-1990; 90JP-0096252.

XX 07-JUN-1990; 90JP-0147392.

XX (TAKE) TAKEDA CHEMICALS IND KK.

XX Kakinuma A, Nakahama K, Yoshimura K, Katsuo Y, Iwan M;

XX WPI: 1991-059398/09.

XX N-PSDB: AAQ10620.

XX Human nerve growth factor containing cysteine residues - used as

XX reagent and therapeutic drug for senile dementia.

XX Claim 1; Fig 1: 33pp; English.

XX The sequence was deduced from a clone isolated from a lambda EMBL3

XX genomic library prepd. from human leukocyte DNA, using a probe

XX synthesised based on the sequence of the known human NGF gene [A.

XX Ullrich et al., Nature 303, 821 (1983)]. The clone, betaLN2113,

XX isolated from the library was cleaved with Sma1 and Apa1 to remove

XX a 1kb fragment contg. the gene which was then inserted into plasmid

XX pBluescript IIR to obtain PNGP107G. The gene was sequenced from

XX this plasmid using Sequase (Biochemical). The sequence of the

XX CC protein coding region was found to be in complete agreement with

XX CC that of Ullrich et al. The sequence was used to produce

XX CC recombinant h-NGF for use in the prodn. of drugs for e.g. senile

XX CC dementia.

XX Sequence 241 AA:

Query Match 98.5%; Score 648; DB 12; Length 241;

Best Local Similarity 99.2%; Pred. No. 5.9e-69;

Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPIFHGGEFSVCDSSVWVGDKTTATDIDKGEVWVLGEVINNSVPROYFFETKCRD 61

Db 122 SSSHPIRHRGEFVSVDVSVWVGDKTTATDICKGEVNLGSEVNINNSVFQYFFETKCRD 181
 QY 62 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVLSKRAVRA 121
 Db 182 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVLSKRAVRA 241

RESULT 8

AA013858
 ID AAR13858 standard; Protein; 241 AA.

AC AAR13858;
 DT 21-NOV-1991 (first entry)
 DE Human nerve growth factor.
 XX
 XX hNGF.
 XX
 OS Homo sapiens.

PN JP03175976-A.
 PD 31-JUL-1991.

PF 12-DEC-1989; 89JP-0320483.

PR 30-SEP-1989; 89JP-0253796.
 PR 15-DEC-1988; 88JP-0314860.
 PR 12-DEC-1989; 89JP-0320483.

PA (TAKE) TAKEDA CHEMICAL IND KK.

DR WPI: 1991-269694/37.
 DR N-PSDB; AA013397.

PT Secretory prepn. of animal protein - by culturing
 PT Schizosaccharomyces pombe which retains DNA at 3'-terminal of
 PT promoter region.
 XX

PS Disclosure; Fig 3; 12pp; Japanese.

CC The amino acid sequence is encoded that of human nerve growth factor
 CC (NGF). It may be expressed in Schizosaccharomyces pombe using the
 CC glyceraldehyde-3-phosphate dehydrogenase (GPD) gene promoter.
 XX

SQ Sequence 241 AA;

Query Match 98.5%; Score 648; DB 12; Length 241;
 Best Local Similarity 99.2%; Pred. No. 5.9e-69;
 Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPIRHRGEFVSVDVSVWVGDKTTATDICKGEVNLGSEVNINNSVFQYFFETKCRD 61
 Db 122 SSSHPIRHRGEFVSVDVSVWVGDKTTATDICKGEVNLGSEVNINNSVFQYFFETKCRD 181
 QY 62 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVLSKRAVRA 121
 Db 182 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVLSKRAVRA 241

RESULT 9

AA013886
 ID AAR13886 standard; Protein; 241 AA.

AC AAR13886;
 DT 04-DEC-1991 (first entry)

DE NGF with pro-region and signal sequence.
 XX
 XX Nerve growth factor; cerebral nerve system; senile; dementia;

KW vector; expression.

FX Key Location/Qualifiers

FT Region 1..18

FT Region /label= sig_sequence

FT Region 19..28

FT Protein /label= pro-region

FT Protein 29..241

FT Protein /label= NGF

PN JP03183485-A.

PD 09-AUG-1991.

PF 26-JUL-1990; 90JP-0196270.

PR 26-JUL-1990; 90JP-0196270.

PR 27-JUL-1989; 89JP-0192581.

PR 30-SEP-1989; 89JP-0253796.

PA (TAKE) TAKEDA CHEMICAL IND KK.

DR WPI: 1991-277586/38.

DR N-PSDB; AA013592.

PT Human nerve growth factor for treating senile dementia - obtd. by

PT culturing yeast transformed by yeast expression vector contg. NGF

PT encoding DNA.

PS Disclosure; Fig 1+3; 11pp; Japanese.

XX A human NGF gene (obtd. from pNGF107G) or its chemically synthesised

CC DNA were used, opt. cleaved by restriction enzymes. In the human NGF,

CC arginine and alanine may added to the C-terminal. A fragment of

CC pNGF107G was ligated into pGID906-1 contg. a GPD promoter to obtain

CC pGGM228. DNA comprising nucleotides 1-99 of this sequence and a

CC partial sequence of pGGM228 and pGID906-1 were ligated to obtain

CC pGGM301.

CC S. cerevisiae NA74-3A(rho-)/pGGM301 (FERM-P2532) contains the

CC expression vector and is useful for the prodn. of human NGF.

CC The NGF is used as a reagent to study the cerebral nerve system

CC and to treat senile dementia.

SQ Sequence 241 AA;

Query Match 98.5%; Score 648; DB 12; Length 241;
 Best Local Similarity 99.2%; Pred. No. 5.9e-69;
 Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPIRHRGEFVSVDVSVWVGDKTTATDICKGEVNLGSEVNINNSVFQYFFETKCRD 61
 Db 122 SSSHPIRHRGEFVSVDVSVWVGDKTTATDICKGEVNLGSEVNINNSVFQYFFETKCRD 181
 QY 62 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVLSKRAVRA 121
 Db 182 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVLSKRAVRA 241

RESULT 10

AA077419
 ID AAR77419 standard; Protein; 241 AA.

AC AAR77419;
 DT 10-FEB-1996 (first entry)

DE Human nerve growth factor.
 XX
 XX Nerve growth factor; neurotrophic factor; therapeutic;
 XX protein refolding; NGF.
 XX
 OS Homo sapiens.

```

FH Key Location/Qualifiers
FT Protein 122..241
FT /note= "mature protein"
FT 1..121
FT Region /note= "pre-region"
FT
XX MO9530686-A1.
XX
XX 16-NOV-1995.
XX
XX 02-MAY-1995; 95MO-US05423.
XX
XX 27-JUN-1994; 94US-0266080.
XX
XX 09-MAY-1994; 94US-0240122.
XX
XX (SYNT ) SYNTX-SYNERGEN NEUROSCIENCE JOINT VENTU.
XX
XX Bonam D, Kohno T, Lille J, Rosendahl MS;
XX
XX WPI: 1995-404080/51.
XX
XX N-PSDB; AAT05437.
XX
XX Process for bacterial expression of recombinant neurotrophic factor
XX PT - useful for promoting the survival and maintaining phenotypic
XX PT differentiation of nerve and glial cells.
XX
XX
XX Disclosure; Page 33-34; 57pp; English.
XX
XX The nerve growth factor (NGF) gene is expressed in Escherichia
XX CC coli cells. The recombinant protein is solubilized and
XX CC sulfonlated and allowed to refold in the presence of PEG and urea.
XX CC Biologically active NGF, used for promoting the survival of and
XX CC maintaining the phenotypic differentiation of nerve and glial cells,
XX CC is isolated and purified. This method breaks incorrectly formed
XX CC disulphide bonds and allows refolding of the factor into the correct
XX CC tertiary structure required for maximum yield of full active protein.
XX
XX
XX Sequence 241 AA:
SQ
XX
XX Query Match 98.5%; Score 648; DB 16; Length 241;
XX Best Local Similarity 99.2%; Pred. No. 5.9e-69;
XX Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
XX
XX 2 SSSHPIFHRGFEVSDSVVWVGDKTTATDIDKGEVNLGEVNNINSVFROYFFETKCRD 61
XX |||||||
XX DB 122 SSSHPIFHRGFEVSDSVVWVGDKTTATDIDKGEVNLGEVNNINSVFROYFFETKCRD 181
XX
XX 62 PNPVDSGCRGIDSKHMNSCTTHTFVKALTMDSKQAAAMRFTRIDTACVLSRAVRRA 121
XX |||||||
XX DB 182 PNPVDSGCRGIDSKHMNSCTTHTFVKALTMDSKQAAAMRFTRIDTACVLSRAVRRA 241
XX
XX
XX RESULT 11
XX AAR66688
XX ID AAR66688 standard; Protein: 241 AA.
XX
XX AAR66688;
XX
XX 23-AUG-1995 (first entry)
XX
XX Human nerve growth factor.
XX
XX Human nerve growth factor; hNGF; polyclonal antibody;
XX KW Immunogen; enzyme immunoassay.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX FH Peptide 1..18
XX FT /label= sig_peptide
XX FT 19..121
XX FT Peptide /label= pro_peptide
XX
XX Misc-difference 8
XX
```

```

FT /note= "corresponding codon TCG"
FT Misc-difference 59
FT /note= "corresponding codon TAT"
FT Misc-difference 173
FT /note= "corresponding codon TAG"
FT Disulfide-bond 136..201
FT Disulfide-bond 179..229
FT Disulfide-bond 189..231
XX
XX JP06317587-A.
XX
XX 15-NOV-1994.
XX
XX 14-FEB-1991; 91JP-0021181.
XX
XX 31-AUG-1990; 90JP-0231317.
XX
XX (TAKE ) TAKEDA CHEM IND LTD.
XX
XX WPI: 1995-033116/05.
XX
XX N-PSDB; AAO79871.
XX
XX Polyclonal antibody against human nerve growth factor (NGF) -
XX PT useful to detect human NGF, for diagnosis of disease
XX PT
XX
XX Example 1; Pages 31-33; 35pp; Japanese.
XX
XX AAO79871 encodes AAR66688 human nerve growth factor (hNGF), the
XX CC protein was used as an immunogen to generate a polyclonal
XX CC antibody against hNGF. The polyclonal antibody can be used
XX CC to detect and determine hNGF pref. by enzyme immunoassay.
XX
XX
XX Sequence 241 AA:
SQ
XX
XX Query Match 98.5%; Score 648; DB 16; Length 241;
XX Best Local Similarity 99.2%; Pred. No. 5.9e-69;
XX Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
XX
XX 2 SSSHPIFHRGFEVSDSVVWVGDKTTATDIDKGEVNLGEVNNINSVFROYFFETKCRD 61
XX |||||||
XX DB 122 SSSHPIFHRGFEVSDSVVWVGDKTTATDIDKGEVNLGEVNNINSVFROYFFETKCRD 181
XX
XX 62 PNPVDSGCRGIDSKHMNSCTTHTFVKALTMDSKQAAAMRFTRIDTACVLSRAVRRA 121
XX |||||||
XX DB 182 PNPVDSGCRGIDSKHMNSCTTHTFVKALTMDSKQAAAMRFTRIDTACVLSRAVRRA 241
XX
XX
XX RESULT 12
XX AAM26237
XX ID AAM26237 standard; Protein: 241 AA.
XX
XX AAM26237;
XX
XX 16-MAR-1998 (first entry)
XX
XX Human prepronGF.
XX
XX Fusion protein; hydrophilic spacer; recombinant; expression system;
XX KW carboxypeptidase; prepronGF.
XX
XX Homo sapiens.
XX
XX WO9728272-A1.
XX
XX 07-AUG-1997.
XX
XX 31-JAN-1997; 97WO-US01470.
XX
XX 31-JAN-1996; 96US-0595043.
XX
XX (TECH-) TECHNOLOGENE INC.
XX
XX Sgarlato GD;
XX
```

XX WPI; 1997-402624/37.
 DR N-PSDB; AAT80162.
 XX
 PT Recombinant protein expression system for fusion protein production
 PT - useful for high quantity production of authentic recombinant
 PT proteins
 XX
 PS Example 6; Page 140-141; 194pp; English.
 XX
 CC A novel recombinant vector has been developed which comprises a
 CC nucleotide sequence encoding a fusion protein. The fusion protein
 CC comprises three domains joined together in order, from N-terminus to
 CC C-terminus, of a first domain comprising a protein of interest, a second
 CC domain comprising a hydrophilic spacer and an affinity domain, each
 CC domain comprising amino acid residues. The present sequence represents
 CC human preproNGF, used in example 6 of the present invention. The
 CC recombinant vector is used for the production of authentic recombinant
 CC proteins of interest. The method of the invention is useful for the
 CC expression of fusion proteins capable of isolation by affinity
 CC chromatography in pro- or eukaryotic cells. This method allows
 CC for the efficient cleavage and generation of authentic proteins of
 CC interest that do not contain extraneous (i.e. non-naturally occurring)
 CC amino acids.
 CC
 XX Sequence 241 AA:
 SQ
 Query Match 98.5%; Score 648; DB 18; Length 241;
 Best Local Similarity 99.2%; Pred. No. 5.9e-69;
 Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 2 SSSHPFIRHGEFVSVCDSVSWVGDKTTATDIDKKEVNVLGVEVNNINSVFQYFFETCRD 61
 Db 122 SSSHPFIRHGEFVSVCDSVSWVGDKTTATDIDKKEVNVLGVEVNNINSVFQYFFETCRD 181
 QY 62 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMQKQAMRFIRIDTACVCLSKAVRA 121
 Db 182 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMQKQAMRFIRIDTACVCLSKAVRA 241
 RESULT 13
 AAM48886
 ID AAM48886 standard; Protein; 241 AA.
 XX
 AC AAM48886;
 XX
 DT 12-OCT-1998 (first entry)
 XX
 XX Human prepro-nerve growth factor beta chain.
 XX
 KM Neurotrophin; nerve growth factor; NGF; human; purification;
 KM hydrophobic interaction chromatography.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT Protein 1..121
 FT /label= Prepro_region
 FT Protein 122..241
 FT /label= Mat_protein
 FT Modified-site 167
 FT /note= "N-glycosylated"
 FT Region 179..189
 FT /note= "conserved Cys-containing region involved in
 FT Cys knot motif"
 FT Region 229..231
 FT /note= "conserved Cys-containing region involved in
 FT Cys knot motif"
 XX
 PN W09821234-A2.
 XX
 PD 22-MAY-1998.

PF 14-NOV-1997; 97MO-US21068.
 XX
 PR 29-MAY-1997; 97US-0047855.
 PR 15-NOV-1996; 96US-0030838.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PI Beck JT, Burton LE, Schmelzer CH;
 XX
 DR WPI; 1998-322333/28.
 XX
 PT Isolation of neurotrophin(s) from, e.g. mis-folded or glycosylated
 PT variant(s) - using hydrophobic interaction chromatography.
 PT optionally in combination with high performance cation exchange
 PT chromatography
 XX
 PS Disclosure; Fig 4; 59pp; English.
 XX
 CC This polypeptide comprises the human nerve growth factor (NGF)
 CC beta chain precursor. Methods are provided for large-scale
 CC purification of neurotrophins, including mature NGF, suitable for
 CC clinical use. A claimed method comprises: (1) separating the
 CC neurotrophin from the other proteins using a hydrophobic
 CC interaction chromatography resin (HICR); and optionally (2)
 CC separating the neurotrophin from a chemical variant by high
 CC performance cation exchange chromatography (HPCEC). The processes
 CC can also be used for purification of e.g. mouse NGF (see AAM48887),
 CC brain-derived neurotrophic factor (see AAM48888), neurotrophin-4/5
 CC (see AAM48890) and neurotrophin-3 (see AAM48889). The processes allow
 CC separation of neurotrophins from various undesirable misprocessed,
 CC misfolded, size, glycosylated or charge forms. They allow selective
 CC separation from their variants and other molecules, and from other
 CC polypeptides with high pi. The processes are applicable to
 CC starting materials from various sources, including fermentation
 CC broths or lysed bacterial or mammalian cells.
 CC
 XX Sequence 241 AA:
 SQ
 Query Match 98.5%; Score 648; DB 19; Length 241;
 Best Local Similarity 99.2%; Pred. No. 5.9e-69;
 Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 2 SSSHPFIRHGEFVSVCDSVSWVGDKTTATDIDKKEVNVLGVEVNNINSVFQYFFETCRD 61
 Db 122 SSSHPFIRHGEFVSVCDSVSWVGDKTTATDIDKKEVNVLGVEVNNINSVFQYFFETCRD 181
 QY 62 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMQKQAMRFIRIDTACVCLSKAVRA 121
 Db 182 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMQKQAMRFIRIDTACVCLSKAVRA 241
 RESULT 14
 AAY07303
 ID AAY07303 standard; Protein; 241 AA.
 XX
 AC AAY07303;
 XX
 DT 06-JUL-1999 (first entry)
 XX
 XX Human nerve growth factor beta protein.
 XX
 KM Cerebrospinal; axon; growth; mammal; spinal cord injury; lesion; NGF;
 KM expression vector; neurotrophin; nerve growth factor 2; neurotrophin 3;
 KM N3; voluntary motor function.
 XX
 OS Homo sapiens.
 XX
 PN W09900148-A2.
 XX
 PD 07-JAN-1999.
 XX
 PF 30-JUN-1998; 98MO-US13778.
 XX

PR 30-JUN-1997: 97US-0051255.
XX
PA (REGC) UNIV CALIFORNIA.
XX
PI Gage FH, Grill R, Tuszyński MH;
XX WPI: 1999-095478/08.
DR N-PSDB: AAX34366.
XX
PT Treating spinal cord injuries in a mammal - by inducing growth of
PT cerebrospinal projection axons using a recombinant vector for
PT expressing CST neurotrophin
PS
XX Disclosure: Fig 6; 49pp: English.
XX
CC The invention relates to a method of inducing cerebrospinal projection
CC (CST) axon growth in a mammal with a spinal cord injury that involves
CC a CST lesion by delivering a recombinant expression vector for CST
CC neurotrophin, such as this sequence - nerve growth factor beta. The
CC method is used to induce partial recovery of voluntary motor function
CC in a mammal after disruption of corticospinal projections in the spinal
CC cord.
XX
XX Sequence 241 AA:
SQ
Query Match 98.5%; Score 648; DB 20; Length 241;
Best Local Similarity 99.2%; Pred. No. 5.9e-69;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
OY 2 SSSHPIFRHGEFSCDVSVMVGDKTTATDIDKGEVMVLGEVINNSVFRQYFFETKCRD 61
DB 122 SSSHPIFRHGEFSCDVSVMVGDKTTATDIDKGEVMVLGEVINNSVFRQYFFETKCRD 181
OY 62 PNPVDSGCRGIDSKHMNSYCTTHTFEVKALTMDSKQAAAMRFIRIDTACVLSRAVARRA 121
DB 182 PNPVDSGCRGIDSKHMNSYCTTHTFEVKALTMDSKQAAAMRFIRIDTACVLSRAVARRA 241
RESULT 15
AAB67865
ID AAB67865 standard; Protein; 241 AA.
AC AAB67865;
XX
DT 29-JUN-2001 (first entry)
XX
DE Amino acid sequence of a human polypeptide designated PTMA-8.
XX
XX PTMA: Immune deficiency; infection; autoimmune disorder; wound closure;
KW connective tissue disease; multiple sclerosis; rheumatoid arthritis;
KW systemic lupus erythematosus; autoimmune pulmonary inflammation; ulcer;
KW Guillain-Barre syndrome; autoimmune thyroiditis; myasthenia gravis;
KW insulin dependent diabetes mellitus; graft-versus-host disease;
KW autoimmune inflammatory eye disease; gut protection; gut regeneration;
KW fibrosis; reperfusion injury; systemic cytokine damage.
XX
OS Homo sapiens.
XX
PN WO200123572-A2.
XX
PD 05-APR-2001.
XX
XX 29-SEP-2000; 2000WO-US41035.
PF
XX
XX 30-SEP-1999: 99US-0156745.
PR 06-OCT-1999: 99US-0158942.
PR 13-OCT-1999: 99US-0159248.
PR 06-DEC-1999: 99US-0169344.
PR 29-JUN-2000: 2000US-0215048.
XX
XX (CURA-) CURAGEN CORP.
XX
XX Prayaga SK, Vernet C, Shinkets RA, Burgess C, Spytek KA;
PI

XX WPI: 2001-273512/28.
DR
DR N-PSDB: AAF80462.
XX
XX Novel polypeptides termed PTMAX, and nucleic acids encoding PTMAX,
PT useful for detecting and treating diseases caused immune deficiencies -
XX
XX Claim 1; Page 20-22; 128pp: English.
PS
XX
XX The present sequence represents a PTMA-8 (not defined) polypeptide. The
CC sequence is derived from clone AL049825. The polypeptide is 26958.5
CC daltons. PTMA polynucleotides and polypeptides are used in the
CC manufacture of a medicament for treating a syndrome associated with a
CC human disease, the disease selected from a pathology associated with a
CC PTMA. They may be useful in the treatment of various immune deficiencies
CC and disorders. These immune deficiencies may be genetic or caused by
CC viral as well as bacterial or fungal infections or may result from
CC autoimmune disorders. Autoimmune disorders which may be treated using
CC PTMA include, for example, connective tissue disease, multiple sclerosis,
CC systemic lupus erythematosus, rheumatoid arthritis, autoimmune pulmonary
CC inflammation, Guillain-Barre syndrome, myasthenia gravis, graft-versus-host disease
CC and autoimmune inflammatory eye disease. Additionally PTMA may also be
CC useful to promote better or faster closure of non-healing wounds,
CC including pressure ulcers, ulcers associated with vascular insufficiency,
CC surgical and traumatic wounds. Furthermore, PTMA may also be useful for
CC gut protection or regeneration and treatment of lung or liver fibrosis,
CC reperfusion injury in various tissue, and conditions resulting from
CC systemic cytokine damage.
XX
XX Sequence 241 AA:
SQ
Query Match 98.5%; Score 648; DB 22; Length 241;
Best Local Similarity 99.2%; Pred. No. 5.9e-69;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
OY 2 SSSHPIFRHGEFSCDVSVMVGDKTTATDIDKGEVMVLGEVINNSVFRQYFFETKCRD 61
DB 122 SSSHPIFRHGEFSCDVSVMVGDKTTATDIDKGEVMVLGEVINNSVFRQYFFETKCRD 181
OY 62 PNPVDSGCRGIDSKHMNSYCTTHTFEVKALTMDSKQAAAMRFIRIDTACVLSRAVARRA 121
DB 182 PNPVDSGCRGIDSKHMNSYCTTHTFEVKALTMDSKQAAAMRFIRIDTACVLSRAVARRA 241
Search completed: December 2, 2002, 15:08:37
Job time : 24.1149 secs

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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 ; Search time 9.64596 Seconds

(without alignments)
1205.921 Million cell updates/sec

Title: US-10-072-681-2

Perfect score: 658
Sequence: 1 PSSSHPIRHRGFSVCDVS.....FIRIDRACVLSKRAVRRA 121Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 200000000Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :

1: p1r1:*
2: p1r2:*
3: p1r3:*
4: p1r4:*

Pred. No. is the number of results predicted to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	648	98.5	286	1 NGHUBM	nerve growth facto
2	640	97.3	229	2 I46614	nerve growth facto
3	628	95.4	125	2 A26312	nerve growth facto
4	599	91.0	245	2 I56570	beta-nerve growth
5	587	89.2	307	1 NGMSMG	nerve growth facto
6	581	88.3	243	2 A26311	nerve growth facto
7	580	88.1	241	2 J10097	nerve growth facto
8	569	86.5	303	1 NGRTBA	nerve growth facto
9	563	85.6	235	2 S14481	nerve growth facto
10	488	74.2	233	2 I51193	nerve growth facto
11	481	73.1	117	2 S28161	nerve growth facto
12	449.5	68.3	116	1 NGNXI	nerve growth facto
13	445.5	67.7	116	2 A58566	nerve growth facto
14	445.5	67.0	266	2 A59218	nerve growth facto
15	388	59.0	194	2 I51709	nerve growth facto
16	380.5	57.8	257	2 I50400	neurotrophin-3 pre
17	380.5	57.8	257	2 C40304	neurotrophin-3 pre
18	380.5	57.8	258	2 S09155	neurotrophin-3 pre
19	380.5	57.8	282	2 A35781	hippocampus-derive
20	348	52.9	286	2 S50855	neurotrophin-6 - s
21	324.5	49.3	247	2 A40304	brain-derived neur
22	324.5	49.3	249	2 S12555	brain-derived neur
23	324.5	49.3	249	2 B40304	brain-derived neur
24	324.5	49.3	252	2 A30361	brain-derived neur
25	320.5	48.7	214	2 I84765	brain-derived neur
26	318.5	48.4	248	2 JC6183	brain-derived neur
27	313.5	47.6	114	2 I50606	brain-derived neur
28	310.8	47.2	269	2 I51708	brain-derived neur
29	308.5	46.9	236	2 JH0400	neurotrophin-4 pre

30	307.5	46.7	210	2 A42687	neurotrophin-4 pre
31	305.5	46.4	209	2 B42687	neurotrophin-4 pre
32	304.5	46.3	114	2 I51599	brain-derived neur
33	76.5	11.6	835	2 C97322	probable alpha-ara
34	74.5	11.3	365	2 T08577	hypothetical prote
35	73	11.1	229	2 C69806	hypothetical prote
36	71.5	10.9	489	2 S53637	protein kinase clk
37	69.5	10.6	481	2 T27665	hypothetical prote
38	68.5	10.4	1254	2 E82064	conserved hypothet
39	68.5	10.4	502392	1 S02392	alpha-2-macroglobu
40	68.5	10.4	4545	1 S25111	beta-transducin re
41	68	10.3	518	2 B48088	hypothetical prote
42	67.5	10.3	361	2 T48029	hypothetical prote
43	67.5	10.3	554	2 A86211	hypothetical prote
44	67.5	10.3	1155	2 T40522	hypothetical prote
45	67.5	10.3	4543	1 A53102	alpha-2-macroglobu

ALIGNMENTS

RESULT 1

NGHUBM

nerve growth factor beta chain precursor - human (fragment)

C:Species: Homo sapiens (man)

C>Date: 19-Feb-1984 #sequence-revision 19-Feb-1984 #text-change 18-Jun-1999

C:Accession: A01399; S10253

R:Ullrich, A.; Gray, A.; Berman, C.; Dull, T.J.

Nature 303, 821-825, 1983

A>Title: Human beta-nerve growth factor gene sequence highly homologous to that of mo

A:Reference number: A93305; MUID:83244965; PMID:6688123

A:Accession: A01399

A:Molecule type: DNA

A:Residues: 1-286 <DUL>

R:Borsani, G.; Pizutti, A.; Rugari, E.I.; Fallini, A.; Sillani, V.; Sidioli, A.; Scaria

Nucleic Acids Res. 18, 4020, 1990

A>Title: cDNA sequence of human beta-NGF.

A:Reference number: S10253; MUID:90326556; PMID:2374737

A:Accession: S10253

A>Status: translation not shown

A:Molecule type: mRNA

A:Residues: 46-286 <BOR>

A:Comment: Nerve growth factor is found in submaxillary gland in large quantities and

nic sensory ganglia in vivo and in vitro and to increase cellular neurotubule levels

C:Genetics:

A:Gene: GDB:NGFB

A:Cross-references: GDB:120233; OMIM:162030

A:Map position: 1p13.1-1p13.1

A:Insertion: 41/3

C:Complex: nerve growth factor is composed of two alpha chains, two beta chains, and

C:Superfamily: nerve growth factor beta chain

C:Keywords: glycoprotein; growth factor; submandibular gland

F:1-166/Domain: signal sequence and propeptide (fragment) #status predicted <SIG>

F:167-284/Product: nerve growth factor beta chain #status predicted <MUT>

F:26-114,159,211/Binding site: carbohydrate (Asn) (covalent) #status predicted

F:161-246,224-274,234-276/Disulfide bonds: #status predicted

Query Match 98.5%; Score 648; DB 1; Length 286;

Best Local Similarity 99.2%; Pred. No. 1, 9e-61;

Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Oy 2 SSSPIRHRGFSVCDVSVMGKTTATDIDKGEVNLGSEVNNNSVFOYFETKCRD 61

Db 167 SSSPIRHRGFSVCDVSVMGKTTATDIDKGEVNLGSEVNNNSVFOYFETKCRD 226

Oy 62 PNPVDSGCRGIDSKHMSYCTTHTFEKALTMDSKQAMRIRIDTACVLSKRAVRRA 121

Db 227 PNPVDSGCRGIDSKHMSYCTTHTFEKALTMDSKQAMRIRIDTACVLSKRAVRRA 286

RESULT 2

I46614

nerve growth factor B - pig (fragment)
C:Species: Sus scrofa domestica (domestic pig)
C>Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999
C:Accession: I46614
R:Lahbid-Mansais, Y.; Mellink, C.; Verle, M.; Gellin, J.
C:Genetic: A new marker (NGF) on pig chromosome 4, isolated by using consensus sequence Cytogenet. Cell Genet. 67, 120-125, 1994
A:Title: A new marker (NGF) on pig chromosome 4, isolated by using consensus sequence
A:Reference number: I46614; MUID:94313891; PMID:8039422
A:Accession: I46614
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-229 <LAN>
C:Cross-references: GB:U31898; NID:g476732; PIDN:AAA21301.1; PID:g533771
C:Genetics:
A:Gene: NGFB
C:Superfamily: nerve growth factor beta chain

Query Match 97.3%; Score 640; DB 2; Length 229;
Best Local Similarity 97.5%; Pred. No. 1.le-60;
Matches 117; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 2 SSSPHFRGGEFVSCDSVWVGDKTTATDIDKGEVWVLGEVNNNSVFQYFFETKCRD 61
|||||
Db 110 SSSPHFRGGEFVSCDSVWVGDKTTATDIDKGEVWVLGEVNNNSVFQYFFETKCRD 169
|||||

OY 62 PNPVDSGCGRIDSKHMNSYCTTHTFEVKALTMDCQQAAMRFIRIDTACVLSKRAVRA 121
|||||
Db 170 PNPVDSGCGRIDSKHMNSYCTTHTFEVKALTMDCQQAAMRFIRIDTACVLSKRAVRA 229
|||||

RESULT 3
A26312
C:Species: Bos primigenius taurus (cattle)
C>Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999
C:Accession: A26312
M:Meier, R.; Becker-Andre, M.; Goeltz, R.; Heumann, R.; Shaw, A.; Thoenen, H.
EMBO J. 5, 1489-1493, 1986
A:Title: Molecular cloning of bovine and chick nerve growth factor (NGF): delineation of
A:Reference number: A26312; MUID:86300647; PMID:2427334
A:Accession: A26312
A:Molecule type: mRNA
A:Residues: 1-125 <ME>
A:Cross-references: GB:M26809; NID:g163419; PIDN:AAA30666.1; PID:g163420
C:Comment: Nerve growth factor stimulates neurite outgrowth from sympathetic and embryonic
C:Superfamily: nerve growth factor beta chain
C:Keywords: growth factor; homodimer; seminal vesicle
R:6-125/Product: nerve growth factor #status predicted <MNT>
F:20-85, 63-113, 73-115/Disulfide bonds: #status predicted

Query Match 95.4%; Score 628; DB 2; Length 125;
Best Local Similarity 94.2%; Pred. No. 1e-59;
Matches 113; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

OY 2 SSSPHFRGGEFVSCDSVWVGDKTTATDIDKGEVWVLGEVNNNSVFQYFFETKCRD 61
|||||
Db 6 SSSPHFRGGEFVSCDSVWVGDKTTATDIDKGEVWVLGEVNNNSVFQYFFETKCRD 65
|||||

OY 62 PNPVDSGCGRIDSKHMNSYCTTHTFEVKALTMDCQQAAMRFIRIDTACVLSKRAVRA 121
|||||
Db 66 PNPVDSGCGRIDAKHMNSYCTTHTFEVKALTMDCQQAAMRFIRIDTACVLSKRTGORA 125
|||||

RESULT 4
I56570
beta-nerve growth factor - rat (fragment)
C:Species: Rattus norvegicus (Norway rat)
C>Date: 26-Jul-1996 #sequence_revision 26-Jul-1996 #text_change 16-Jul-1999
C:Accession: I56570
R:Whittemore, S.R.; Friedman, P.L.; Larhammar, D.G.; Persson, H.; Gonzalez-Carvajal, M.;
J. Neurosci. Res. 20, 403-410, 1988
A:Title: Rat beta-nerve growth factor sequence and site of synthesis in the adult hippo
A:Reference number: I56570; MUID:89037223; PMID:3184206

A:Accession: I56570
A>Status: preliminary; translated from GB/EMBL/DDBJ

A:Molecule type: DNA
A:Residues: 1-245 <RES>
A:Cross-references: GB:I36589; NID:g205691; PIDN:AAA1697.1; PTD:g205692
C:Superfamily: nerve growth factor beta chain

Query Match 91.0%; Score 599; DB 2; Length 245;
Best Local Similarity 61.6%; Pred. No. 2, 7e-56;
Matches 109; Conservative 4; Mismatches 6; Indels 0; Gaps 0;

OY 2 SSSHPHFHGEFSVCDYSVMVGDKTTATDIKKEVNVLCEVINNSVFQRYFEFKCRD 61
 ||::|||:
Db 126 SSTHHVFHMGEFSCDSYVMVGDKTATTADIKKEVTLEEVININSVFQEFTETCKRA 185
 ||::|||:

Oy 62 PNPDGSGRGIDSKHMSYCCTHTTFVKALTMCKQAAMFFIRDPACVCULSRKKAVR 120
 ||::|||:
Db 186 PNPVESGGRGIDSKHMSYCCTHTFPVALTTDDKAAMFRITRIDACVCULSRRKAAR 244
 ||::|||:

RESULT 5

NCKMSG
nerve growth factor beta chain precursor - mouse

C:Species: Mus musculus (house mouse)
C>Date: 30-Nov-1980 #sequence_revision 19-Feb-1984 #text_change 21-Jul-2000
C:Accession: A93301; A93305; A90366; I49689; I52891; A01400; I49690
R.Scott, J.; Selby, M.; Urdea, M.; Quitroga, M.; Bell, G.T.; Rutter, W.J.
Nature 302, 538-540, 1983
A>Title: Isolation and nucleotide sequence of a cDNA encoding the precursor of mouse
A:Reference number: A93301; MUID:83167518; PMID:6336309

A:Accession: A93301
A:Molecule type: mRNA
A:Residues: 1-307 <SCO>

A:Cross-references: GB:VO0836; NID:g53364; PIDN:CAA24221.1; PID:g53365
R.Ullrich, A.; Gray, A.; Berman, C.; Dull, T.J.

Nature 303, 821-825, 1983
A>Title: Human beta-neurite growth factor gene sequence highly homologous to that of mo
A:Reference number: A93305; MUID:83244969; PMID:6688123

A:Accession: A93305
A:Molecule type: mRNA
A:Residues: 1-307 <ULL>

A:Cross-references: GB:KO1759; NID:g200051; PIDN:AA38820.1; PID:g387495
A>Note: these authors believe that Met-67 is probably the amino-terminal residue and
B.Angeletti, R.H.; Hermodson, M.A.; Bradshaw, R.A.
Biochemistry 12, 100-115, 1973
A>Title: Amino acid sequences of mouse 2, 5S nerve growth factor. II. Isolation and ch
A:Reference number: A90366; MUID:73075048; PMID:4566923

A:Accession: A90366
A:Molecule type: Protein
A:Residues: 188-216,'N',218-305 <ANGS>

R.Selby, M.J.; Edwards, R.; Sharp, F.; Rutter, W.J.
Mol. Cell. Biol. 7, 3057-3064, 1987
A>Title: Mouse nerve growth factor gene: Structure and expression.
A:Reference number: I49689; MUID:88038855; PMID:3670305

A:Accession: I49689
A>Status: preliminary; translated from GB/EMBL/DDBJ

A:Molecule type: DNA
A:Residues: 1-307 <RES>

A:Cross-references: GB:M17296; NID:g193493; PIDN:AA37687.1; PID:g467311
R.Ullrich, A.; Gray, A.; Berman, C.H.; Coussens, L.; Dull, T.J.
Cold Spring Harb. Symp. Quant. Biol. 48, 435-442, 1983
A>Title: Sequence homology of human and mouse beta-NGF subunit genes.
A:Reference number: I52891; MUID:84206565; PMID:6327169

A:Accession: I52891
A>Status: preliminary; translated from GB/EMBL/DDBJ

A:Molecule type: mRNA
A:Residues: 1-307 <RECS>

A:Cross-references: GB:M184805; NID:g200053; PIDN:AA39821.1; PID:g200054
C:Comment: The active molecule is a dimer of identical chains associated by noncovalent sensory ganglia in vivo and in vitro and to increase cellular neurotubule levels

C:Genetics:
A:Gene: NGFB

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A:Intron: 21/2; 62/3
C:Superfamily: nerve growth factor beta chain
E:KeyWords: glycoprotein, growth factor, homodimer
F:1-187/Domain: signal sequence and propeptide #status predicted <SIG>
F:188-305/Product: nerve growth factor beta chain #status experimental <MAY>
F:135,180/Binding site: carbohydrate (Asn) (covalent) #status predicted
F:202-267,245-295,255-297/disulfide bonds: #status experimental
F:232/Binding site: carbohydrate (Asn) (covalent) #status absent

Query Match      89.2%, Score 587, DB 1; Length 307;
Best Local Similarity    90.8%; Pred. NO. 6,7e-55;
Matches 108; Conservative   3; Mismatches 85; Indels   0; Gaps   0;

OY      2 SSSHHFFHGESEVCDSDSVWVGDKTTATDICKGKRVMLAGEVININSVFROQFEETCKRD 61
Db      188 SSTHFVFMHGEEVCDSDSVWVGDKTTATDICKGVTVLAEVNINNSVFRQFEETCKRA 247
        |||||:|||||||
OY      62 PNVDSCGRIGDISKHMSNYCTTHTFVKALTMDCQAAMRFRIIDTACVCYLRRKA RVR 120
Db      248 SNPVSQGCRGISDSKHMSNYCTTHTFVKALTTDEQAAMRFRIDTACVCYLRRKA RTR 306
        |||||:|||||||

RESULT 6
A26311
nerve growth factor beta chain precursor - chicken (fragment)
C:Species: Gallus gallus (chicken)
C>Date: 05-Oct-1988 #sequence_revision 05-Oct-1988 #text_change 21-Jul-2000
C:Accession: A26311; A24857; S00127; S12532
R:Ebdendal, T.; Larhammar, D.; Persson, H.
EMBO J. 5, 1483-1487, 1986
A>Title: Structure and expression of the chicken beta nerve growth factor gene.
A:Reference number: A26311; MUID:86300646; PMID:3017695
A:Accession: A26311
A:Molecule type: mRNA
A:Residues: 1-243 <EB>
A:Cross-references: GB:X04003; NID:g63697; PIDN:CAAZ7633.1; PID:g1334740
R:Wilson, D.; Perrele, C.; Frechin, N.; Keller, A.; Behar, G.; Brachet, P.; Auffray, C.
EMBS Lett. 203, 82-86, 1986
A>Title: Molecular cloning of the avian beta-nerve growth factor gene: transcription in
A:Reference number: A24857; MUID:86248129; PMID:3720959
A:Accession: A24857
A:Molecule type: DNA
A:Residues: 118-243 <MI>
A:Cross-references: GB:D00010; GB:N00010; GB:X04067; NID:q222840; PIDN:BAA00008.1; PID:
R:Meiler, R.; Becker-Andre, M.; Goetz, R.; Heumann, K.; Shaw, A.; Thoenen, H.
EMBO J. 5, 1489-1493, 1986
A>Title: Molecular cloning of bovine and chick nerve growth factor (NGF): delineation o
A:Reference number: A26312; MUID:86300647; PMID:2427334
A:Accession: S00127
A>Status: preliminary; not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 121-243 <MEI>
A:Cross-references: GB:M68810; NID:g212446; PIDN:AAA48984.1; PID:g212447
R:Ibanez, C.F.; Hallboeck, F.; Ebdendal, T.; Persson, H.
EMBO J. 9, 1477-1483, 1990
A>Title: Structure-function studies of nerve growth factor: functional importance of hi
A:Reference number: S12532; MUID:90228346; PMID:2328722
A:Accession: S12532
A>Status: preliminary
A:Molecule type: DNA
A:Residues: 126-243 <TBA>
C:Superfamily: nerve growth factor beta chain
C:Keywords: growth factor
F:1-125/Domain: signal sequence #status predicted <SIG>
F:126-243/Product: nerve growth factor beta chain #status predicted <MAT>

Query Match      88.3%, Score 581, DB 2; Length 243;
Best Local Similarity    88.0%; Pred. No. 2,2e-54;
Matches 103; Conservative   9; Mismatches   5; Indels   0; Gaps   0;

OY      3 SSSHFFHGGESVCDSDSVWGDKRTTADIKGKEVMVLGEVININSVROYFEETKCDP 62
Db      126 TAHPVLHMGEEVCDSDSVWVGDKTTATDICKGTVEVININNVRKYFFEETKCDP 185

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Oy 63 NPVDSGCGIDSKHNNSTCTTHTFVKALTMGKQAAAFRIRIDPACVLSKRAVR 119
    |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 186 RPVSSGCGIDSKHNNSTCTTHTFVKALTMGKQAAAFRIRIDPACVLSKRSGR 242

RESULT 7
JI0097
nerve growth factor beta chain precursor - guinea pig
C:Species: Cavia porcellus (guinea pig)
C:Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 15-Mar-1996
C:Accession: JI0097
R:Schwarz, M.A.; Fisher, D.; Bradshaw, R.A.; Isaacson, P.J.
J. Neurochem. 52, 1203-1209, 1989
A:Title: Isolation and sequence of a cDNA clone of beta-nerve growth factor from the
A:Reference number: JI0097; MUID:89177243; PMID:2926397
A:Accession: JI0097
A:Molecule type: mRNA
A:Residues: 1-241 <SCH>
A>Note: the authors translated the codon GCU for residue 214 as Asp
C:Genetics:
A:Gene: Beta-NGF
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor; hormone
F:1-121/Domain: propeptide #status predicted <PRO>
F:122-241/Product: nerve growth factor beta chain #status predicted <MAT>
F:146-154/Region: receptor binding #status predicted
F:69,114/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 86.1%; Score 580; DB 2; Length 241;
Best Local Similarity 87.4%; Pred. No. 2,8e-54;
Matches 104; Conservative 7; Mismatches 8; Indels 0; Gaps 0;

Oy 2 SSSHHFHRGEEVSCDSVSWVGDKTTATDINGKEVMVLGEVINNSVFRQYFEETKCRD 61
    |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 122 SSTHFVFMHGEESVCDSDSVWVADKTTATDINGKEVTYLAENVNNVNFKQYFEETKCRD 181

Oy 62 PNPVDSGCGIDSKHNNSTCTTHTFVKALTMGKQAAAFRIRIDPACVLSKRAVR 120
    |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 182 PNPVDSGCGIDSKHNNSTCTTHTFVKALTMGKQAAAFRIRIDPACVLSKRAAR 240

RESULT 8
NMRTBA
nerve growth factor beta chain precursor - multimammate rat (Mastomys natalensis)
C:Species: Mastomys natalensis
C:Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 18-Jun-1999
C:Accession: JI0343
R:Fahnestock, M.; Bell, R.A.
Gene 69, 257-264, 1988
A:Title: Molecular cloning of a cDNA encoding the nerve growth factor precursor from
A:Reference number: JI0343; MUID:89172070; PMID:323467
A:Accession: JI0343
A:Molecule type: mRNA
A:Residues: 1-303 <FAH>
A:Cross-references: GB:M22748; NID:9202514; PIDN:AAA40599.1; PID:9202515
A>Note: It is uncertain whether Met-1 or Met-63 is the Initiator
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor; homodimer; submaxillary gland
F:184-301/Product: nerve growth factor beta chain #status predicted <MAT>
F:131,176,228/Binding site: carbohydrate (Asn) (covalent) #status predicted
F:198-263,241-291,251-293/Disulfide bonds: #status predicted

Query Match 86.5%; Score 569; DB 1; Length 303;
Best Local Similarity 87.4%; Pred. No. 5,4e-53;
Matches 104; Conservative 6; Mismatches 9; Indels 0; Gaps 0;

Oy 2 SSSHHFHRGEEVSCDSVSWVGDKTTATDINGKEVMVLGEVINNSVFRQYFEETKCRD 61
    |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 184 SSTHFVFMHGEESVCDSDSVWVADKTTATDINGKEVTYLAENVNNVNFKQYFEETKCR 243

Oy 62 PNPVDSGCGIDSKHNNSTCTTHTFVKALTMGKQAAAFRIRIDPACVLSKRAVR 120
    |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:

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Db 244 RNPVSGCGRIDSKHMSYCTTTTFVKALTTDDROAAMRFIRIDTACVCLTRKAPRR 302

RESULT 9

Sl4481

nerve growth factor beta chain precursor - African clawed frog

C:Species: Xenopus laevis (African clawed frog)

C>Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 16-Jul-1999

C:Accession: S14481

R:Carriero, F.; Campion, M.; Cardinali, B.; Pierandrei-Amaldi, P.

submitted to the EMBL Data Library, October 1990

A:Description: Structure and expression of the nerve growth gene in Xenopus oocyte and

A:Reference number: S14481

A:Accession: S14481

A>Status: preliminary

A:Molecule type: DNA

A:Residues: 1-235 <CAR>

A:Cross-references: EMBL:X55716; NID:964914; PIDN:CA39249.1; PID:964915

C:Superfamily: nerve growth factor beta chain

Query Match 85.6%; Score 563; DB 2; Length 235;

Best Local Similarity 88.4%; Pred. No. 1,8e-52;

Matches 99; Conservative 8; Mismatches 5; Indels 0; Gaps 0;

Db 5 HPFHRGEFSVCDVSVMVGDKTATDIDKGEVNLGEVINNSVFRQYFFETKCRDPP 64

121 HPLHKGESVCDVSVMVGEKTKATDIDKGEVNLGEVINNSVFRQYFFETKCRDPP 180

65 VDSGCGRIDSKHMSYCTTTTFVKALTMDCQOAMRFIRIDTACVCLSRK 116

161 VSSGCGRIDAKHMSYCTTTTFVKALTMDCQOAMRFIRIDTACVCLSRK 232

RESULT 10

151193

nerve growth factor precursor - many-banded krait

C:Species: Bungarus multicinctus (many-banded krait)

C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999

C:Accession: 151193

R:Danse, J.M.; Garrler, J.M.

Growth Factors 8, 77-86, 1993

A>Title: Molecular cloning of a cDNA encoding a nerve growth factor precursor from the k

A:Reference number: 151193; MUID:93192074; PMID:7916740

A:Accession: 151193

A>Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-243 <DAN>

A:Cross-references: GB:S56212; NID:9266298; PIDN:AB25729.1; PID:9266299

C:Superfamily: nerve growth factor beta chain

Query Match 74.2%; Score 488; DB 2; Length 243;

Best Local Similarity 73.0%; Pred. No. 1,8e-44;

Matches 84; Conservative 18; Mismatches 13; Indels 0; Gaps 0;

Db 2 SSSHPFHRGEFSVCDVSVMVGDKTATDIDKGEVNLGEVINNSVFRQYFFETKCRD 61

125 NEHNPVHNGEFSVCDVSISVWVNTKATDIDKGEVNLGEVINNSVFRQYFFETKCRN 184

62 PNPVDSGCGRIDSKHMSYCTTTTFVKALTMDCQOAMRFIRIDTACVCLSRK 116

185 PNPVDSGCGRIDSKHMSYCTTTTFVKALTMDCQOAMRFIRIDTACVCLSRK 239

RESULT 11

S28161

nerve growth factor beta chain - Russell's viper

C:Species: Vipera russelli (Russell's viper)

C>Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 31-Oct-1997

C:Accession: S28161

R:Koyama, T.; Inoue, S.; Ikeda, K.; Hayashi, K.

Biochim. Biophys. Acta 1160, 287-292, 1992

A>Title: Purification and amino acid sequence of a nerve growth factor from the venom of

A:Reference number: S28161; MUID:93120151; PMID:1477101

A:Accession: S28161

A>Status: preliminary

A:Molecule type: protein

A:Residues: 1-117 <KOY>

C:Superfamily: nerve growth factor beta chain

Query Match 73.1%; Score 481; DB 2; Length 117;

Best Local Similarity 73.2%; Pred. No. 4,5e-44;

Matches 82; Conservative 20; Mismatches 10; Indels 0; Gaps 0;

Db 5 HPFHRGEFSVCDVSVMVGDKTATDIDKGEVNLGEVINNSVFRQYFFETKCRDPP 64

1 HPVHNGEFSVCDVSVMVGEKTKATDIDKGEVNLGEVINNSVFRQYFFETKCRDPP 60

65 VDSGCGRIDSKHMSYCTTTTFVKALTMDCQOAMRFIRIDTACVCLSRK 116

61 VPSGCGRIDAKHMSYCTTTTFVKALTMDCQOAMRFIRIDTACVCLSRK 112

RESULT 12

NGNXXI

nerve growth factor - Indian cobra

C:Species: Naja naja (Indian cobra)

C>Date: 30-Nov-1980 #sequence_revision 25-Apr-1997 #text_change 17-Mar-2000

C:Accession: S13927; A01401

R:Inoue, S.; Oda, T.; Koyama, J.; Ikeda, K.; Hayashi, K.

FEBS Lett. 279, 38-40, 1991

A>Title: Amino acid sequences of nerve growth factors derived from cobra venoms.

A:Reference number: S13927; MUID:91138755; PMID:1995338

A:Accession: S13927

A:Molecule type: protein

A:Residues: 1-116 <INO>

A:Experimental source: venom

A>Note: The source is designated as Naja naja and referred to as Indian cobra, so we

R:Hoque-Angeletti, R.A.; Frazer, W.A.; Jacobs, J.W.; Mall, H.D.; Bradshaw, R.A.

Biochemistry 15, 26-34, 1976

A>Title: Purification, characterization, and partial amino acid sequence of nerve gro

A:Reference number: A01401; MUID:76114772; PMID:1247508

A:Accession: A01401

A:Molecule type: protein

A:Residues: 1-11, 'P', 13-14, 'B', 16, 'TBR', 20-21, 'GV', 23-27, 'N', 29-31, 'AS', 34, 'S', 36-48,

15-116 <HOG>

A:Experimental source: venom

A>Note: the source is designated as Naja naja and referred to as Indian cobra, so we

C:Comment: Nerve growth factor is necessary for the development of embryonic symph

C:Complex: homodimer

C:Superfamily: nerve growth factor beta chain

C:Keywords: growth factor; homodimer; venom

F:14-78,56-106,66-108/Disulfide bonds: #status predicted

Query Match 68.3%; Score 449.5; DB 1; Length 116;

Best Local Similarity 70.5%; Pred. No. 1e-40; 17; Indels 1; Gaps 1;

Matches 79; Conservative 15; Mismatches 13; Indels 1; Gaps 1;

Db 5 HPFHRGEFSVCDVSVMVGDKTATDIDKGEVNLGEVINNSVFRQYFFETKCRDPP 64

3 HPVHNGEFSVCDVSVMVGEKTKATDIDKGEVNLGEVINNSVFRQYFFETKCRDPP 61

65 VDSGCGRIDSKHMSYCTTTTFVKALTMDCQOAMRFIRIDTACVCLSRK 116

62 EPSCGCGRIDSHMSYCTTTTFVKALTMDCQOAMRFIRIDTACVCLSRK 113

RESULT 13

A58566

nerve growth factor - Chinese cobra

C:Species: Naja naja atra (Chinese cobra)

C>Date: 16-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 25-Apr-1997

C:Accession: A58566

R:Oda, T.; Inoue, S.; Ikeda, K.; Furukawa, S.; Hayashi, K.

Biochim. Int. 19, 909-917, 1989

A>Title: Amino acid sequence of nerve growth factor purified from the venom of the po

A:Reference number: A58566; MUID:90147847; PMID:2619756

A:Accession: A58566
A:Molecule type: protein
A:Residues: 1-116 <ODA>
A:Experimental source: venom
C:Comment: Nerve growth factor is necessary for the development of embryonic sympathetic
C:Complex: homodimer
C:Superfamily: nerve growth factor beta chain
C:Keywords: growth factor; homodimer; venom
E:14-78,56-106,66-108/Disulfide bonds: #status predicted

GenCore version 5.1.3
Copyright (c) 1993 - 2002 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 ; Search time 4.66483 Seconds

(without alignments)
1010.837 Million cell updates/sec

Title: US-10-072-681-2

Perfect score: 658
Sequence: 1 PSSHPHFHGFSEVCDVS.....FIRIDTACVLSRKAVRA 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	648	98.5	241	1	NGF_HUMAN
2	640	97.3	229	1	NGF_PIG
3	618	93.9	231	1	NGF_BOVIN
4	599	91.0	241	1	NGF_RAT
5	587	89.2	241	1	NGF_MOUSE
6	581	88.3	243	1	NGF_CHICK
7	580	88.1	241	1	NGF_CAVPO
8	569	86.5	231	1	NGF_PRAWA
9	563	85.6	231	1	NGF_XENLA
10	488	74.2	243	1	NGF_BUNMU
11	481	73.1	117	1	NGF_DABRR
12	446.5	67.9	116	1	NGF_NAJNA
13	442.5	67.2	116	1	NGF_NAJNA
14	388	59.0	194	1	NGF_XIPMA
15	380.5	57.8	257	1	NT3_CHICK
16	380.5	57.8	257	1	NT3_HUMAN
17	380.5	57.8	258	1	NT3_MOUSE
18	380.5	57.8	258	1	NT3_RAT
19	379.5	57.7	260	1	NT3_XENLA
20	376.5	57.2	257	1	NT3_FELCA
21	370.5	56.3	233	1	NT7_BRARE
22	365.5	55.5	140	1	NT7_CYPCA
23	325.5	49.5	255	1	BDNF_CAVPO
24	324.5	49.3	247	1	BDNF_HUMAN
25	324.5	49.3	247	1	BDNF_PROLO
26	324.5	49.3	247	1	BDNF_URSAR
27	324.5	49.3	249	1	BDNF_URSML
28	324.5	49.3	249	1	BDNF_MOUSE
29	324.5	49.3	249	1	BDNF_RAT
30	324.5	49.3	252	1	BDNF_PIG
31	320.5	48.7	114	1	BDNF_MACMU
32	320.5	48.7	247	1	BDNF_FELCA
33	319.5	48.6	270	1	BDNF_CYPCA

34	318.5	48.4	248	1	BDNF_BOVIN
35	317.5	48.3	246	1	BDNF_CHICK
36	310.5	47.2	269	1	BDNF_XIPMA
37	308.5	46.9	236	1	NT4_XENLA
38	307.5	46.7	210	1	NT5_HUMAN
39	305.5	46.4	209	1	NT5_RAT
40	304.5	46.3	114	1	BDNF_XENLA
41	215	32.7	257	1	NT6B_HUMAN
42	214	32.5	186	1	NT6C_HUMAN
43	212	32.2	257	1	NT6A_HUMAN
44	190	28.9	42	1	NGF_VIPLE
45	129	19.6	43	1	BDNF_RAVCL

ALIGNMENTS

RESULT 1
ID NGF_HUMAN STANDARD: PRT: 241 AA.
AC P01138;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-JAN-1990 (Rel. 13, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_Taxid:9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=8324969; PubMed=6688123;
RA Ullrich A., Gray A., Berman C., Dull T.J.;
RT "Human beta-nerve growth factor gene sequence highly homologous to that of mouse.";
RL Nature 303:821-825(1983).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=84206565; PubMed=6327169;
RA Ullrich A., Gray A., Berman C., Dull T.J.;
RT "Sequence homology of human and mouse beta-NGF subunit genes.";
RL Cold Spring Harb. Symp. Quant. Biol. 48:435-442(1983).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RX MEDLINE=90326556; PubMed=2374737;
RA Borsani G., Pizanti A., Rugerli E.I., Falini A., Silani V.,
RT "CDNA sequence of human beta-NGF.";
RL Nucleic Acids Res. 18:4020-4020(1990).
RN [4]
RP SEQUENCE OF 178-219 FROM N.A.
RC TISSUE=Leukocyte;
RX MEDLINE=91222573; PubMed=2025430;
RA Halboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND EMBRYONIC SENSORY NEURONS.
- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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CC -----
DR EMBL: V01511; CAA24755.1; -
DR EMBL: M21062; AAA5931.1; -
DR EMBL: X52599; CAA36832.1; -
DR PIR: A01399; NGHUB.
DR PIR: S10253; S10253.
DR HSSP: P01139; 1BET.
DR GENE: HGNC:7808; NGFB.
DR MIM: 162030; -
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF_1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF_1.
DR SMART: SM00140; NGF_1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW SIGNAL.
FT PROPEP 1 18
FT CHAIN 19 121
FT DISULFID 122 241
FT DISULFID 136 201
FT DISULFID 179 229
FT DISULFID 189 231
FT CARBOHYD 69 69
FT CARBOHYD 114 114
SQ SEQUENCE 241 AA; 26987 MW; CF1DB4DC6B736B0F CRC64;

Query Match 98.5%; Score 648; DB 1; Length 241;
Best Local Similarity 99.2%; Pred. No. 4.4e-62;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
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OY 2 SSSHPIFRGGEFVSDSVVWVGDKTTATDIDKGEVNLGEVINNSVFRQFFETKCRD 61
DB 122 SSSHPIFRGGEFVSDSVVWVGDKTTATDIDKGEVNLGEVINNSVFRQFFETKCRD 181
OY 62 PNPVSGCGRGIDSKHMNSCTTHTFVKALTMDSKQAMRFRIIDTACVCVSRRAVRA 121
DB 182 PNPVSGCGRGIDSKHMNSCTTHTFVKALTMDSKQAMRFRIIDTACVCVSRRAVRA 241

RESULT 2
NGF_PIG
ID NGF_PIG STANDARD: PRT: 229 AA.
AC Q29074;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF) (Fragment).
GN NGFB.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_TaxID=96823;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Large white; TISSUE=Blood;
RA MEDLINE=94313891; PubMed=8039422;
RA Lahib-Manana Y., Mellink C., Verle M., Gellin J.;
RT "A new marker (NGFB) on pig chromosome 4, isolated by using a
RT consensus sequence conserved among species.";
RL Cytogenet. Cell Gene. 67:120-125(1994).
-1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
-1- MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
EMBRYONIC SENSORY NEURONS.
-1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC -----
CC or send an email to license@lsb.ch).
DR EMBL: L31898; AAA21301.1; -
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF_1.
DR PRODOM: PD002052; NGF_1.
DR SMART: SM00140; NGF_1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW NON_TER 1
FT SIGNAL 1 6
FT PROPEP 7 109
FT CHAIN 110 229
FT DISULFID 124 189
FT DISULFID 167 217
FT DISULFID 177 219
FT CARBOHYD 57 57
FT CARBOHYD 102 102
FT CARBOHYD 154 154
SQ SEQUENCE 229 AA; 25275 MW; FE8890771CBA3189 CRC64;

Query Match 97.3%; Score 640; DB 1; Length 229;
Best Local Similarity 97.5%; Pred. No. 3e-61;
Matches 117; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
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OY 2 SSSHPIFRGGEFVSDSVVWVGDKTTATDIDKGEVNLGEVINNSVFRQFFETKCRD 61
DB 110 SSSHPIFRGGEFVSDSVVWVGDKTTATDIDKGEVNLGEVINNSVFRQFFETKCRD 169
OY 62 PNPVSGCGRGIDSKHMNSCTTHTFVKALTMDSKQAMRFRIIDTACVCVSRRAVRA 121
DB 170 PNPVSGCGRGIDSKHMNSCTTHTFVKALTMDSKQAMRFRIIDTACVCVSRRAVRA 229

RESULT 3
NGF_BOVIN
ID NGF_BOVIN STANDARD: PRT: 231 AA.
AC P13600; O18969;
DT 01-JAN-1990 (Rel. 13, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF) (Fragment).
GN NGFB.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Blood;
RA MEDLINE=97430845; PubMed=9284944;
RA Elidue C., Laurent P., Hayes H., Rodellar C., Levezuel H.,
RA Zaragoza P.;
RT "Assignment of the beta-nerve growth factor (NGFB) to bovine
RT chromosome 3 band q23 by in situ hybridization.";
RL Cytogenet. Cell Gene. 77:306-307(1997).
RN [2]
RP SEQUENCE OF 107-231 FROM N.A.
RA MEDLINE=86306447; PubMed=2427334;
RA Weier R., Becker Andre M., Gots R., Heumann R., Shaw A., Thoenen H.;
RT "Molecular cloning of bovine and chick nerve growth factor (NGF):
RT delineation of conserved and unconserved domains and their
RT relationship to the biological activity and antigenicity of NGF.";
RL EMBO J. 5:1489-1493(1986).
-1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
-1- MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
EMBRYONIC SENSORY NEURONS.
-1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
```


CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC -----
DR EMBL: M26809; AAA30666.1; -;
DR PIR: A26312; A26312.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1
FT PROPEP 9
FT CHAIN 112 231
FT DISULFID 126 191
FT DISULFID 169 219
FT DISULFID 179 221
FT CARBOHYD 156 156
FT CONFLICT 118 118
FT CONFLICT 161 161
FT CONFLICT 230 231
SQ SEQUENCE 231 AA; 25437 MW; 0160509291A1418C CRC64;

Query Match 93.9%; Score 618; DB 1; Length 231;
Best Local Similarity 96.5%; Pred. No. 6.8e-59;
Matches 111; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

QY 2 SSSPHIFRGEFSVCDSSVWVGDKTTATDITKGEVNLGEVNINNSVFRQYFFETKCRD 61
DB 112 SSSPHVLRGEFSVCDSSVWVGDKTTATDITKGEVNLGEVNINNSVFRQYFFETKCRD 171
QY 62 PNPVDSGCGRIGDSKHMNSCTTHTFVKALTMDCQKQAMRFIRIDTACVLSRK 116
DB 172 PNPVDSGCGRIGDSKHMNSCTTHTFVKALTMDCQKQAMRFIRIDTACVLSRK 226

RESULT 4
NGF_RAT
ID NGF_RAT STANDARD; PRT; 241 AA.
AC P25427;
DT 01-MAY-1992 (Rel. 22, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=89037223; PubMed=3184206;
RA Whittemore S.R., Friedman P.L., Lammammar D.G., Persson H.,
RA Gonzalez-Carvajal M., Holets V.R.;
RT "Rat beta-nerve growth factor sequence and site of synthesis in the
RT adult hippocampus";
RL J. Neurosci. Res. 20:403-410(1988).
RN [2]
RP SEQUENCE OF 178-219 FROM N.A.
RC STRAIN=Sprague-Dawley; TISSUE=Liver;
RX MEDLINE=91222573; PubMed=2025430;
RA Hallboeck F., Ibanez C.F., Persson H.;

RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: M36589; AAA41697.1; ALT_INIT.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1
FT PROPEP 19 121
FT CHAIN 122 241
FT DISULFID 136 201
FT DISULFID 179 229
FT DISULFID 189 231
FT CARBOHYD 69 69
FT CARBOHYD 114 114
FT CARBOHYD 166 166
SQ SEQUENCE 241 AA; 27009 MW; 665FA237156321D3D CRC64;

Query Match 91.0%; Score 599; DB 1; Length 241;
Best Local Similarity 91.6%; Pred. No. 7.6e-57;
Matches 109; Conservative 4; Mismatches 6; Indels 0; Gaps 0;

QY 2 SSSPHIFRGEFSVCDSSVWVGDKTTATDITKGEVNLGEVNINNSVFRQYFFETKCRD 61
DB 122 SSSPHVLRGEFSVCDSSVWVGDKTTATDITKGEVNLGEVNINNSVFRQYFFETKCRD 181
QY 62 PNPVDSGCGRIGDSKHMNSCTTHTFVKALTMDCQKQAMRFIRIDTACVLSRK 120
DB 182 PNPVDSGCGRIGDSKHMNSCTTHTFVKALTMDCQKQAMRFIRIDTACVLSRK 240

RESULT 5
NGF_MOUSE
ID NGF_MOUSE STANDARD; PRT; 241 AA.
AC P01139; 063864;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-JAN-1990 (Rel. 13, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=83167518; PubMed=6336309;
RA Scott J., Selby M.J., Urdea M.S., Quiroga M., Bell G.I., Rutter M.J.;
RT "Isolation and nucleotide sequence of a cDNA encoding the precursor
RT of mouse nerve growth factor.";
RL Nature 302:538-540(1983).
RN [2]

RP SEQUENCE FROM N.A.
 RX MEDLINE-83244969; PubMed-6688123;
 RA Ullrich A., Gray A., Berman C., Dull T.J.;
 RT "Human beta-nerve growth factor gene sequence highly homologous to
 RL that of mouse."; Nature 303:821-825(1983).
 [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-84206565; PubMed-6327169;
 RA Ullrich A., Gray A., Berman C., Coussens L., Dull T.J.;
 RT "Sequence homology of human and mouse beta-NGF subunit genes";
 RL Cold Spring Harb. Symp. Quant. Biol. 48:435-442(1983).
 [4]
 RP SEQUENCE FROM N.A.
 RX STRAIN-C57BL/6; TISSUE-Submaxillary gland;
 MEDLINE-88038855; PubMed-3670305;
 RA Selby M.J., Edwards R., Sharp F., Rutler W.J.;
 RT "Mouse nerve growth factor gene: structure and expression.";
 RL Mol. Cell. Biol. 7:3057-3064(1987).
 [5]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-93264918; PubMed-1284621;
 RA Yamamoto T., Yamakuni T., Okabe N., Amano T.;
 RT "Production and secretion of nerve growth factor by clonal striated
 RL muscle cell line, G8-1."; Neurochem. Int. 21:251-258(1992).
 [6]
 RP SEQUENCE OF 122-239.
 RX MEDLINE-73075048; PubMed-4566923;
 RA Angelletti R.H., Hermodson M.A., Bradshaw R.A.;
 RT "Amino acid sequences of mouse 2.5S nerve growth factor. II.
 RL Isolation and characterization of the thermolabile and peptic peptides
 and the complete covalent structure."; Biochemistry 12:1100-115(1973).
 [7]
 RP X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).
 RX MEDLINE-92065986; PubMed-1956407;
 RA McDonald N.O., Lapatto R., Murray-Rust J., Gunning J., Wlodawer A.,
 RL Blundell T.L.;
 RT "New protein fold revealed by a 2.3-A resolution crystal structure of
 RL nerve growth factor."; Nature 354:411-414(1991).
 [8]
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).
 RX MEDLINE-94260545; PubMed-8201620;
 RA Holland D.R., Coussens L.S., Meng W., Matthews B.W.;
 RT "Nerve growth factor in different crystal forms displays structural
 RL flexibility and reveals zinc binding sites."; J. Mol. Biol. 239:385-400(1994).
 [9]
 RP X-RAY CRYSTALLOGRAPHY (3.15 ANGSTROMS) OF 7S COMPLEX.
 RX STRAIN-Swiss Webster; TISSUE-Submaxillary gland;
 MEDLINE-98035451; PubMed-9351801;
 RA Bax B., Blundell T.L., Murray-Rust J., McDonald N.O.;
 RT "Structure of mouse 7S NGF: a complex of nerve growth factor with
 RL four binding proteins."; Structure 5:1275-1285(1997).
 [10]
 RP FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
 MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
 STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
 EMBRYONIC SENSORY NEURONS.
 [11]
 RP SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
 [12]
 RP SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
 [13]
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 EMBL: M35075; AAA39818.1; ALT_INIT.

DR EMBL: V00836; CAA24221.1; ALT_INIT.
 DR EMBL: K01759; AAA39820.1; ALT_INIT.
 DR EMBL: M14805; AAA39821.1; ALT_INIT.
 DR EMBL: M17296; AAA37687.1; ALT_INIT.
 DR EMBL: M17296; AAA37687.1; JOINED.
 DR EMBL: M17297; AAA37687.1; JOINED.
 DR EMBL: S62089; CAB32081.2; ALT_SEQ.
 DR PIR: A01400; NGSMSG.
 DR PIR: 1BET; 31-MAY-94.
 DR PDB: 1BTG; 08-MAR-98.
 DR PDB: 1SGF; 27-MAY-98.
 DR MGD: MGI:97321; NGFb.
 DR InterPro: IPR002072; NGF.
 DR Pfam: PF00243; NGF; 1.
 DR PRINTS: PR00268; NGF.
 DR PRODOM: PD002052; NGF; 1.
 DR SMART: SM00140; NGF; 1.
 DR PROSITE: PS00248; NGF-1; 1.
 DR PROSITE: PS50270; NGF-2; 1.
 KW Growth factor; Signal; 3D-structure.
 FT SIGNAL 1 18
 FT PROPEP 19 121
 FT CHAIN 122 241
 FT DISULFID 136 201
 FT DISULFID 179 229
 FT DISULFID 189 231
 FT CARBOHYD 69 69
 FT CARBOHYD 114 114
 FT CONFLICT 233 241
 FT SEQUENCE 241 AA; 27076 MW; 164455ELDC550081 CRC64;
 Query Match 89.2%; Score 587; DB 1; Length 241;
 Best Local Similarity 90.8%; Pred. No. 1.5e-55;
 Matches 108; Conservative 3; Mismatches 8; Indels 0; Gaps 0;
 QY 2 SSSPIFRGSEVSVDSSVWVGDKTTATDJKGRFVWLGVEVNNINSYFRQYFETKCRD 61
 DB 122 STHPVFMHGEFSVCDSSVWVGDKTTATDJKGRFVWLGVEVNNINSYFRQYFETKCRD 181
 QY 62 PNPVSGRGIDSKHMSYCTTHTFVKALTMDSGQAAAFRIIDYACVLSRAVRR 120
 DB 182 SNPVSGRGIDSKHMSYCTTHTFVKALTMDSGQAAAFRIIDYACVLSRAVRR 240
 RESULT 6
 ID NGF-CHICK STANDARD; PRT; 243 AA.
 AC P05200; 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 15-JUN-2002 (Rel. 41, Last annotation update)
 DE Beta-nerve growth factor precursor (Beta-NGF).
 GN NGFR.
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC gallus.
 OX NCBI_TaxID=9031;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-86300646; PubMed-3077695;
 RA Ebendahl T., Larhammar D., Persson H.;
 RT "Structure and expression of the chicken beta nerve growth factor
 RL gene."; EMBO J. 5:1483-1487(1986).
 RN [2]
 RP SEQUENCE OF 118-243 FROM N.A.
 RX MEDLINE-86248129; PubMed-3720959;
 RA Wion D., Perret C., Frechin N., Keller A., Behar G., Brachet P.,
 RA Aufferay C.;
 RT "Molecular cloning of the avian beta-nerve growth factor gene:
 RL transcription in brain."; FEBS Lett. 203:82-86(1986).

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RN [3]
RP SEQUENCE OF 121-243 FROM N.A.
RX MEDLINE-86300647; PubMed-2427334;
RA Meier R., Becker-Andre M., Gotz R., Heumann R., Shaw A., Thoenen H.;
RT "Molecular cloning of bovine and chick nerve growth factor (NGF):
RT delineation of conserved and unconserve domains and their
RT relationship to the biological activity and antigenicity of NGF.";
RL EMO J. 5:1489-1493(1986).
RN [4]
RP SEQUENCE OF 181-222 FROM N.A.
RX MEDLINE-9122573; PubMed-2025430;
RA Hallboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NEUROUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: X04003; CA27633.1; ALT_INIT.
DR EMBL: X04067; CA27703.1; -.
DR EMBL: M26810; AAA48984.1; -.
DR PIR: A24857; A24857.
DR PIR: A26311; A26311.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF_1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF_1.
DR SMART: SM00140; NGF_1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 22 POTENTIAL.
FT PROPEP 23 125 BETA-NERVE GROWTH FACTOR.
FT CHAIN 126 243 BY SIMILARITY.
FT DISULFID 139 204 BY SIMILARITY.
FT DISULFID 182 232 BY SIMILARITY.
FT DISULFID 192 234 BY SIMILARITY.
SQ SEQUENCE 243 AA; 27138 MM; 74C306CB2079DA07 CRC64;

Query Match 88.3%; Score 581; DB 1; Length 243;
Best Local Similarity 88.0%; Pred. No. 6.4e-55;
Matches 103; Conservative 9; Mismatches 5; Indels 0; Gaps 0;

OY 3 SSHPIFHRGSEVCDVSVMVGDKTTATDIDKGEVYLVGEVNNINSVFRQYFFETKCRD 62
AC :||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
DB 126 TAHVHLHGEFVCDVSVMVGDKTTATDIDKGEVYLVGEVNNINSVFRQYFFETKCRD 185
OY 63 NPVDSCGRGIDSKHMNSYCTTHTFVKALTMGKQAMRFIRIDTACVLSRKAVR 119
DB 186 RPVSSGCRGIDAKHMNSYCTTHTFVKALTMGKQAMRFIRIDTACVLSRKSGR 242

RESULT 7
NGF_CAVPO STANDARD; PRT; 241 AA.
ID NGF_CAVPO
AC P19093;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).

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GN NGFB.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriocognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE-89177243; PubMed-2926397;
RA Schwarz M.A., Fisher D., Bradshaw R.A., Isackson P.J.;
RT "Isolation and sequence of a cDNA clone of beta-nerve growth factor
RT from the guinea pig prostate gland.";
RL J. Neurochem. 52:1203-1209(1989).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NEUROUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF_1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF_1.
DR SMART: SM00140; NGF_1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18 POTENTIAL.
FT PROPEP 19 121 BETA-NERVE GROWTH FACTOR.
FT CHAIN 122 241 BY SIMILARITY.
FT DISULFID 136 201 BY SIMILARITY.
FT DISULFID 179 229 BY SIMILARITY.
FT DISULFID 189 231 BY SIMILARITY.
FT CARBOHYD 69 69 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 114 114 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 241 AA; 26821 MM; 2F4E26B197804BF4 CRC64;

Query Match 88.1%; Score 580; DB 1; Length 241;
Best Local Similarity 87.4%; Pred. No. 8.1e-55;
Matches 104; Conservative 7; Mismatches 8; Indels 0; Gaps 0;

OY 2 SSHPIFHRGSEVCDVSVMVGDKTTATDIDKGEVYLVGEVNNINSVFRQYFFETKCRD 61
DB 122 STHVFHFGSEVCDVSVMVGDKTTATDIDKGEVYLVGEVNNINSVFRQYFFETKCRD 181
OY 62 NPVDSCGRGIDSKHMNSYCTTHTFVKALTMGKQAMRFIRIDTACVLSRKAVR 120
DB 182 PPSVDSGCRGIDSKHMNSYCTTHTFVKALTMGKQAMRFIRIDTACVLSRKARR 240

RESULT 8
NGF_PPRANA STANDARD; PRT; 241 AA.
ID NGF_PPRANA
AC P20675;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Proromys natalensis (African soft-furred rat) (Mastomys natalensis).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
OC Mastomys.
OX NCBI_TaxID=10112;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE-89172070; PubMed-3234767;
RA Fahnestock M., Bell R.A.;
RT "Molecular cloning of a cDNA encoding the nerve growth factor
RT precursor from Mastomys natalensis.";
RL Gene 69:257-264(1988).

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CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: M23748; AAA40599.1; ALT_INIT.
DR PIR: J03433; NCRTBA.
DR HSSP: P01139; 1BETG.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF.1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF.1.
DR SMART: SM00140; NGF.1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; signal.
KW SIGNAL.
FT PROPEP 1 18
FT CHAIN 19 121
FT DISULFID 136 201
FT DISULFID 179 229
FT DISULFID 189 231
FT CARBOHYD 69 69
FT CARBOHYD 114 114
FT CARBOHYD 166 166
FT SEQUENCE 241 AA; 27035 MW; 8BFB207A1FEB2F7 CAC64;
SQ
Query Match 86.5%; Score 569; DB 1; Length 241;
Best Local Similarity 87.4%; Pred. No. 1.2e-53;
Matches 104; Conservative 6; Mismatches 9; Indels 0; Gaps 0;

OY 2 SSSHPFIRGERSVCDSSVWVGDKTTATDIDKGEVMTLGEVNNINSVROYEFFEKCRD 61
DB 122 SETHPFWGERSVCDSSVWVGDKTTATDIDKGEVMTLGEVNNINSVROYEFFEKCRD 181
OY 62 RHPVSGCGIDSKHNSCTTHTFVKALTMDSKQAAARFIRIDTACVCLSRKAVRR 120
DB 182 RHPVESGCGIDSKHNSCTTHTFVKALTTDDRQAAARFIRIDTACVCLSRKAPRR 240

RESULT 9
NGF_XENLA STANDARD: PRT: 231 AA.
ID NGF_XENLA
AC P21617;
DT 01-MAY-1991 (rel. 18, Created)
DT 15-DEC-1998 (rel. 37, Last sequence update)
DT 15-DEC-1998 (rel. 37, Last annotation update)
DE Nerve growth factor precursor (NGF).
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipridae; Pipidae;
OC Xenopodinae; Xenopus.
OX NCBI_TaxID=8355;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE-91362944; PubMed-1888511;
RA Carriere F., Campioni M., Cardinali B., Pierandrei-Amaldi P.;
RT "Structure and expression of the nerve growth factor gene in Xenopus
RT oocytes and embryos."
RT Mol. Reprod. Dev. 29:313-322(1991).
RN [2]
RP SEQUENCE OF 170-211 FROM N.A.
RC TISSUE=Liver;
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RX MEDLINE-91222573; PubMed-2025430;
RA Hallboeek F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary."
RL Neuron 6:845-858(1991).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
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CC -----
DR EMBL: X55716; CA39249.1; ALT_INIT.
DR PIR: S14481; S14481.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF.1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF.1.
DR SMART: SM00140; NGF.1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; signal.
KW SIGNAL.
FT PROPEP 1 18
FT CHAIN 19 114
FT DISULFID 128 193
FT DISULFID 171 221
FT DISULFID 181 223
FT CARBOHYD 63 63
FT CARBOHYD 107 107
FT CARBOHYD 158 158
FT SEQUENCE 231 AA; 26416 MW; 72A04E7D00B58C5 CAC64;
SQ
Query Match 85.6%; Score 563; DB 1; Length 231;
Best Local Similarity 88.4%; Pred. No. 5.1e-53;
Matches 99; Conservative 8; Mismatches 5; Indels 0; Gaps 0;

OY 5 HPFIRGERSVCDSSVWVGDKTTATDIDKGEVMTLGEVNNINSVROYEFFEKCRDPP 64
DB 117 HPVLRGERSVCDSSVWVGDKTTATDIDKGEVMTLGEVNNINSVROYEFFEKCRDPP 176
OY 65 VDSGCGIDSKHNSCTTHTFVKALTMDSKQAAARFIRIDTACVCLSRK 116
DB 177 VDSGCGIDSKHNSCTTHTFVKALTMDSKQAAARFIRIDTACVCLSRK 228

RESULT 10
NGF_BUNMU STANDARD: PRT: 243 AA.
ID NGF_BUNMU
AC P34128;
DT 01-FEB-1994 (rel. 28, Created)
DT 01-FEB-1994 (rel. 28, Last sequence update)
DT 15-JUN-2002 (rel. 41, Last annotation update)
DE Nerve growth factor precursor (NGF).
OS Bungarus multicinctus (Many-banded krait).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubridae;
OC Elapidae; Bungarinae; Bungarus.
OX NCBI_TaxID=8616;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE-93192074; PubMed-7916740;
RA Danse J.M., Garnier J.M.;
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RT      "Molecular cloning of a cDNA encoding a nerve growth factor precursor
RT      from the krait, Bungarus multiclincus.";
RL      Growth Factors 8:77-86(1993).
CC      -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC      MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC      STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC      EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
CC      NEURONS IN THE BRAIN.
CC      -1- SUBUNIT: HOMODIMER.
CC      -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC      -----
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CC      entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC      or send an email to license@isb-sib.ch).
CC      -----
DR      EMBL: S56212; AAB35729.1; -.
DR      HSSP: P01139; 1BET.
DR      InterPro: IPR002072; NGF.
DR      Pfam: PF00243; NGF.1.
DR      PRINTS: PR00268; NGF.
DR      PRODOM: PD002052; NGF.1.
DR      SMART: SM00140; NGF.1.
DR      PROSITE: PS00248; NGF.1.1.
DR      PROSITE: PS50270; NGF_2; 1.
KW      Growth factor; Signal.
FT      SIGNAL 1..18 POTENTIAL.
FT      PROPEP 19..125
FT      CHAIN 126..243 NERVE GROWTH FACTOR.
FT      DISULFID 139..204 BY SIMILARITY.
FT      DISULFID 182..232 BY SIMILARITY.
FT      DISULFID 192..234 BY SIMILARITY.
SQ      SEQUENCE 243 AA; 27514 MW; E33F64B142179A08 CRC64;

Query Match          74.2%; Score 488; DB 1; Length 243;
Best Local Similarity 73.0%; Pred. No. 5,5e-45;
Matches 84; Conservative 18; Mismatches 13; Indels 0; Gaps 0;

OY      2 SSSHPFHGGEFVSVCVSWVAGDKTTATDIDKKEVWVIGEVNINNSVPROYFEETKCRD 61
DB      125 NEHPHNGEFSVCVSWVAGDKTTATDIDKKEVWVIGEVNINNSVPROYFEETKCRN 184
OY      62 PNPVDSGCRGIDSKHNNSTCTTDTFVKALTMGKQAMRFIRIDPACVCVLSRK 116
DB      185 PNPVDSGCRGIDSKHNNSTCTTDTFVKALTMGKQAMRFIRIDPACVCVLSRK 239

RESULT 11
NGF_DABRR          STANDARD:          PRT; 117 AA.
AC      P30894;
DR      01-JUL-1993 (Rel. 26, Created)
DR      01-JUL-1993 (Rel. 26, Last sequence update)
DE      01-NOV-1997 (Rel. 35, Last annotation update)
DE      Nerve growth factor (NGF).
OS      Dabola russelli russelli (Russell's viper) (Vipera russelli russelli).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidae;
OC      Viperidae; Viperinae; Dabola.
OX      NCBI_TaxID=31159;
RN      [1]
RP      SEQUENCE.
RX      TISSUE=Venom;
RX      MEDLINE=93120151; PubMed=1477101;
RA      Koyama J.-I., Inoue S., Ikeda K., Hayashi K.;
RT      "Purification and amino-acid sequence of a nerve growth factor from
RT      the venom of Vipera russelli russelli.";
RL      Blochim. Biophys. Acta 1160:287-292(1992).
CC      -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC      MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT

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CC      STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC      EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
CC      NEURONS IN THE BRAIN.
CC      -1- SUBUNIT: HOMODIMER.
CC      -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
DR      PIR: S28161; S28161.
DR      HSSP: P01139; 1BET.
DR      InterPro: IPR002072; NGF.
DR      Pfam: PF00243; NGF.1.
DR      PRINTS: PR00268; NGF.
DR      PRODOM: PD002052; NGF.1.
DR      SMART: SM00140; NGF.1.
DR      PROSITE: PS00248; NGF.1.1.
DR      PROSITE: PS50270; NGF_2; 1.
KW      Glycoprotein; Growth factor.
FT      DISULFID 12..77 BY SIMILARITY.
FT      DISULFID 55..105 BY SIMILARITY.
FT      DISULFID 65..107 BY SIMILARITY.
FT      CARBOHYD 21..21 N-LINKED (GLCNAC...?).
SQ      SEQUENCE 117 AA; 13283 MW; A64559C5FEC1IP66 CRC64;

Query Match          73.1%; Score 481; DB 1; Length 117;
Best Local Similarity 73.2%; Pred. No. 1,4e-44;
Matches 82; Conservative 20; Mismatches 10; Indels 0; Gaps 0;

OY      5 HPFHGGEFVSVCVSWVAGDKTTATDIDKKEVWVIGEVNINNSVPROYFEETKCRD 64
DB      1 HPVHNGEFSVCVSWVAGDKTTATDIDKKEVWVIGEVNINNSVPROYFEETKCRNP 60
OY      65 VDSGCRGIDSKHNNSTCTTDTFVKALTMGKQAMRFIRIDPACVCVLSRK 116
DB      61 VPSGCRGIDSKHNNSTCTTDTFVKALTMGKQAMRFIRIDPACVCVLSRK 112

RESULT 12
NGF_NAJNA          STANDARD:          PRT; 116 AA.
AC      P01140;
DR      21-JUL-1986 (Rel. 01, Created)
DR      01-MAY-1991 (Rel. 18, Last sequence update)
DR      01-JUL-1993 (Rel. 26, Last annotation update)
DE      Nerve growth factor (NGF).
OS      Naja naja (Indian cobra).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidae;
OC      Elapidae; Elapinae; Naja.
OX      NCBI_TaxID=35670;
RN      [1]
RP      SEQUENCE.
RX      TISSUE=Venom;
RX      MEDLINE=91138755; PubMed=1995338;
RA      Inoue S., Oda T., Koyama J., Ikeda K., Hayashi K.;
RT      "Amino acid sequences of nerve growth factors derived from cobra
RT      venoms.";
RL      FEBS Lett. 279:38-40(1991).
RN      [2]
RP      PRELIMINARY SEQUENCE.
RX      TISSUE=Venom;
RX      MEDLINE=76114772; PubMed=1247508;
RA      Bradshaw R.A.;
RA      Hogue-Angellett R.A., Frazier W.A., Jacobs J.W., Mall H.D.;
RT      "Purification, characterization, and partial amino acid sequence of
RT      nerve growth factor from cobra venom.";
RL      Biochemistry 15:26-34(1976).
CC      -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC      MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC      STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC      EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
CC      NEURONS IN THE BRAIN.
CC      -1- SUBUNIT: HOMODIMER.
CC      -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
DR      PIR: A01401; NGNXXI.
DR      PIR: S13927; S13927.

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DR HSSP; P01139; 1BET.
DR InterPro: IPR002400; GE_cysknob.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF_1.
DR PRINTS; PR00438; GFCYSKNOT.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
DR Growth factor.
KW DISULFID 14 78 BY SIMILARITY.
FT DISULFID 56 106 BY SIMILARITY.
FT DISULFID 66 108 BY SIMILARITY.
SQ SEQUENCE 116 AA; 13022 MM; DAB346B1093ETE06 CRC64;

Query Match 67.9%; Score 446.5; DB 1; Length 116;
Best Local Similarity 65.6%; Pred. No. 6.6e-41;
Matches 78; Conservative 16; Mismatches 17; Indels 1; Gaps 1;

OY 5 HPFIRGEFSVCDYSVWVGDKTATDIDKGEVNLGEVINNSVFRQYFEETKCRDNP 64
DB 3 HPVHLGHSVCDYSANV-TKTATDIDKGNVTYMEVNDLNKYYKEFEETKCKNP 61
OY 65 VDSGCRGIDSKHNSCTTHTFVKALTMDCQAAFRIRIDTACVLSRK 116
DB 62 EPSGCRGIDSHMSYCTETDFIKALTMEGNQAAMRIRIDTACVITRK 113

RESULT 13
NGF_NAJAT STANDARD; PRT; 116 AA.
AC P21377;
DT 01-MAY-1991 (Rel. 18, Created)
DT 01-MAY-1991 (Rel. 18, Last sequence update)
DT 01-JUL-1993 (Rel. 26, Last annotation update)
DE Nerve growth factor (NGF).
OS Naja atra (Chinese cobra), and
OS Naja naja kaouthia (Monocled cobra) (Naja naja siamensis).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidodonta; Squamata; Scleroglossa; Serpentes; Colubroidae;
OC Elapidae; Elapinae; Naja.
OX NCBI_TaxID=8656, 8649;
RN [1]
RP SEQUENCE.
RC SPECIES-N.n.atra; TISSUE-Venom;
RX MEDLINE=90147847; PubMed=2619756;
RA Oda T., Ohta M., Inoue S., Ikeda K., Furukawa S., Hayashi K.;
RT "Amino acid sequence of nerve growth factor purified from the venom
of the Formosan cobra Naja naja atra.";
RL Biochem. Int. 19:909-917(1989).
RN [2]
RP SEQUENCE.
RC SPECIES-N.n.kaouthia; TISSUE-Venom;
RX MEDLINE=91138755; PubMed=1995338;
RA Inoue S., Oda T., Koyama J., Ikeda K., Hayashi K.;
RT "Amino acid sequences of nerve growth factors derived from cobra
venoms.";
RL FEBS Lett. 279:38-40(1991).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
EMERSONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
NEURONS IN THE BRAIN.
CC -1- SUBUNIT: HOMODIMER.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
DR HSSP; P01139; 1BET.
DR InterPro: IPR002400; GE_cysknob.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; FALSE_NEG.
DR PROSITE; PS50270; NGF_2; 1.
DR Growth factor; Signal.
FT SIGNAL 1 30 POTENTIAL.
FT PROPEP 31 79

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DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
DR Growth factor.
KW DISULFID 14 78 BY SIMILARITY.
FT DISULFID 56 106 BY SIMILARITY.
FT DISULFID 66 108 BY SIMILARITY.
SQ SEQUENCE 116 AA; 13064 MM; DAB35421093F3B06 CRC64;

Query Match 67.2%; Score 442.5; DB 1; Length 116;
Best Local Similarity 68.8%; Pred. No. 1.8e-40;
Matches 77; Conservative 17; Mismatches 17; Indels 1; Gaps 1;

OY 5 HPFIRGEFSVCDYSVWVGDKTATDIDKGEVNLGEVINNSVFRQYFEETKCRDNP 64
DB 3 HPVHLGHSVCDYSANV-TKTATDIDKGNVTYMEVNDLNKYYKEFEETKCKNP 61
OY 65 VDSGCRGIDSKHNSCTTHTFVKALTMDCQAAFRIRIDTACVLSRK 116
DB 62 EPSGCRGIDSHMSYCTETDFIKALTMEGNQAAMRIRIDTACVITRK 113

RESULT 14
NGF_XIPMA STANDARD; PRT; 194 AA.
AC P34129;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Nerve growth factor precursor (NGF).
OS Xiphophorus maculatus (Southern platyfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC Cyprinodontiformes; Poeciliidae; Xiphophorus.
OX NCBI_TaxID=8083;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=9233301; PubMed=1629719;
RA Goz R., Raulf F., Scharf M.;
RT "Brain-derived neurotrophic factor is more highly conserved in
structure and function than nerve growth factor during vertebrate
evolution.";
RL J. Neurochem. 59:432-442(1992).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
EMERSONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
NEURONS IN THE BRAIN.
CC -1- SUBUNIT: HOMODIMER.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC -----
DR EMBL; X59941; CAA42566.1; -.
DR HSSP; P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; FALSE_NEG.
DR PROSITE; PS50270; NGF_2; 1.
DR Growth factor; Signal.
FT SIGNAL 1 30 POTENTIAL.
FT PROPEP 31 79

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FT CHAIN 80 194 NERVE GROWTH FACTOR.
FT FTCHD 90 155
FT DISULFID 133 183 BY SIMILARITY.
FT DISULFID 143 185 BY SIMILARITY.
SO SEQUENCE 194 AA; 21596 MW; 0369E0FA51147AE CRC64;

Query Match 59.0%; Score 388; DB 1; Length 194;
Best Local Similarity 66.1%; Pred. No. 2, 1e-34;
Matches 72; Conservative 11; Mismatches 26; Indels 0; Gaps 0;

QY 9 HGEFVSVCDSYVWVGDTATDITKREVMVAGEVINNSYFROYFEETKCRPNPVDG 68
Dd 83 HRGVSVCEESVWVGKNTKATNDISGREVTLPYNNINNVKKQYFFETGCHSPSSGSR 142
QY 69 CRGIDSKMNSTCYTTHFFVKALMDGQAMRETRIDTACVCSRA 117
Dd 143 CIGIDARHNSCHTSHTEFVRLTSSERQVAMRLRINVACVCSRRS 191

RESULT 15
NT3_CHICK STANDARD; PRT; 257 AA.
AC NT3_CHICK P25433;
DT 01-MAY-1992 (Rel. 22, Created)
DT 01-DEC-1992 (Rel. 24, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)
DE (Nerve growth factor 2) (NGF-2).
DE NTF3.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RN RP SEQUENCE FROM N.A.
RX MEDLINE=91091236; PubMed=1457809;
RA Maisonneuve P., Belluscio L., Conover J.C., Yancopoulos G.D.;
RT "Gene sequences of chicken BDNF and NT-3.";
RL DNA Seq. 3:49-54(1992).
RN [2]
RN RP SEQUENCE OF 194-236 FROM N.A.
RX MEDLINE=91222573; PubMed=2025330;
RA Hallboeek F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
CC -I- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND
CC PROPRIOCEPTIVE SENSORY NEURONS.
CC -I- SUBCELLULAR LOCATION: Secreted.
CC -I- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC EMBL; M83378; AAA68880.1; -.
DR HSSP; P20783; 188k.
DR InterPro; IPRO02400; GF_cysknoc.
DR InterPro; IPRO02072; NGF.
DR Pfam; PF00243; NGF_1.
DR PRINTS; PR00438; GFCTSKNOT.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
DR Growth factor; Signal.
FT SIGNAL 1 16
FT POTENTIAL.

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[illegible]

Search completed: December 2, 2002, 15:12:42
Job time : 4.96483 secs

Job time : 4.96483 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 ; Search time 18.7245 Seconds
(Without alignments)
1331.501 Million cell updates/sec

Title: US-10-072-681-2

Perfect score: 658
Sequence: 1 PSSSHPIFRHGEFSVCDVS.....FIRIDPACVCLSRKAVRA 121

Scoring table: BIOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 671580 seqs, 206047115 residues
Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

SPREMBL.21:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phase:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriap:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	648	98.5	241	4	Q9P208
2	648	98.5	241	4	Q9UKL8
3	648	98.5	241	6	Q9N2F1
4	648	98.5	241	6	Q9N2F0
5	648	98.5	241	6	Q9N2E9
6	640	97.3	241	4	Q9P6F0
7	578	87.8	217	4	Q9N1B3
8	529	80.4	294	11	Q91XB4
9	499	75.8	241	13	Q9OW38
10	492	74.8	241	13	Q9DEZ9
11	459	69.8	87	4	Q9PTC3
12	458	69.6	87	4	Q9P2Z4
13	348	52.9	286	13	Q919B8
14	338.5	51.4	241	6	Q9N1B2
15	324.5	49.3	153	11	Q9CYL3
16	324.5	49.3	247	6	Q97759

17	324.5	49.3	249	11	Q8VH4	Q8VH4 mus musculus
18	318.5	48.4	246	13	Q8OG76	Q8OG76 japaia sp
19	317.5	47.8	177	13	Q91BL2	Q91BL2 poephila gu
20	314.5	47.8	270	13	Q9YH42	Q9YH42 brachydanto
21	312.5	47.5	246	13	Q8OG75	Q8OG75 phrynoceph
22	304.5	46.3	246	13	Q8OG74	Q8OG74 cyclophilops
23	296.5	45.1	247	13	Q8OG77	Q8OG77 tylositriclo
24	291.5	44.3	101	6	Q9PT22	Q9PT22 macaca fusc
25	283	43.0	324	13	Q9X195	Q9X195 lampectra fl
26	271.5	41.3	186	12	Q9J5D9	Q9J5D9 fowlipox vir
27	224	34.0	42	6	Q02802	Q02802 trichosurus
28	223	33.9	85	6	Q02790	Q02790 macropus fu
29	217	33.0	85	6	Q13114	Q13114 isodon mac
30	217	33.0	85	6	Q13122	Q13122 tarsipes ro
31	217	33.0	85	6	Q02795	Q02795 ornithorhyn
32	217	33.0	85	6	Q02798	Q02798 petaurus br
33	217	33.0	85	6	Q13104	Q13104 cercartetus
34	217	33.0	85	6	Q02792	Q02792 notoryctes
35	217	33.0	85	6	Q13105	Q13105 desyuroides
36	217	33.0	85	6	Q02801	Q02801 tachyglossu
37	216	32.8	85	6	Q02803	Q02803 trichosurus
38	211	32.1	42	6	Q02794	Q02794 ornithorhyn
39	209	31.8	42	6	Q02800	Q02800 tachyglossu
40	166	25.2	42	13	Q13118	Q13118 proteopet
41	156	23.7	185	11	Q99NV9	Q99NV9 pedetes cap
42	156	23.7	186	6	Q9BFL0	Q9BFL0 chaetophac
43	155	23.6	184	6	Q9BFC5	Q9BFC5 tupala mino
44	155	23.6	185	6	Q9BFC6	Q9BFC6 talpa alai
45	155	23.6	185	6	Q9BFC5	Q9BFC5 condylura c

ALIGNMENTS

RESULT 1

ID	Q9P208	PRELIMINARY:	PRT:	241 AA.
AC	Q9P208	01-OCT-2000 (TREMBL	15, Created)	
DT	01-OCT-2000 (TREMBL	15, Last sequence update)		
DT	01-DEC-2001 (TREMBL	19, Last annotation update)		
DE	Beta-nerve growth factor (Fragment).			
GN	BETA-NGF.			
OS	Homo sapiens (Human).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.			
OX	NCBI_TaxId:9606;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RA	Kitano T., Kobayakawa H., Saitou N.;			
RT	"Silver Project."			
RL	Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.			
DR	EMBL; AB037517; BAA90437.1; -.			
DR	HSSP; P01139; 1BET.			
DR	InterPro; IPR002072; NGF.			
DR	Pfam; PF00243; NGF; 1.			
DR	PRINTS; PR00268; NGF.			
DR	PRODOM; PD002052; NGF; 1.			
DR	SMART; SM00140; NGF; 1.			
DR	PROSITE; PS00248; NGF_1; 1.			
DR	PROSITE; PS0270; NGF_2; 1.			
FT	NON_TER			
SO	SEQUENCE			
Qy	2	SSSHPIFRHGEFSVCDVSVMVGDKTTATDIKGEVMVLGEVININSVFRQYFEFTKCRD 61		
Db	122	SSSHPIFRHGEFSVCDVSVMVGDKTTATDIKGEVMVLGEVININSVFRQYFEFTKCRD 181		
Oy	62	PNPVSGRGIDSKHMNSYCTTHTFVKALIMDQAMRFIRIDPACVCLSRKAVRA 121		

Db 182 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMDSKQAAMRFIRIDTACVLSRKAVRRA 241

RESULT 2

09UKL8 ID 09UKL8 PRELIMINARY: PRT: 241 AA.
AC 09UKL8; 01-OCT-2000 (TREMBlrel. 13, Created)
DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
DT 01-MAR-2002 (TREMBlrel. 20, Last annotation update)
DE Nerve growth factor B.
GN NGF.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=9256269; PubMed=10322959;
RA Tong Y., Wang H., Chen W.;
RT "Cloning and sequencing of the gene for premature beta nerve growth factor."
RL Chung Kuo Yung Sheng Li Hsueh Tsa Chih 13:316-318(1997).
RN [2]
RP SEQUENCE FROM N.A.
RA Tong Y., Wang H.;
RL Submitted (MAY-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL: AF150960; AAD55975.1; -.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
SQ SEQUENCE 241 AA: 26959 MW: 619DFC65EB3BD671 CRC64:

Query Match 98.5%; Score 648; DB 4; Length 241;
Best Local Similarity 99.2%; Pred. No. 2.4e-65;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPIFHRRGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFRQYFEETKCD 61
Db 122 SSSHPIFHRRGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFRQYFEETKCD 181
OY 62 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMDSKQAAMRFIRIDTACVLSRKAVRRA 121
Db 182 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMDSKQAAMRFIRIDTACVLSRKAVRRA 241

RESULT 3

09N2F1 ID 09N2F1 PRELIMINARY: PRT: 241 AA.
AC 09N2F1; 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE Beta-nerve growth factor (Fragment).
GN BETA-NGF.
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Pan.
OX NCBI_TaxID=9598;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CHIMP-220;
RA Kitano T., Kobayakawa H., Saitou N.;
RT "Silver Project."
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL: AB037518; BAA90438.1; -.
DR HSSP: P01139; 1BET.

DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
FT NON_TER 241 241
SQ SEQUENCE 241 AA: 26868 MW: B39FAA912C00A0B CRC64;

Query Match 98.5%; Score 648; DB 6; Length 241;
Best Local Similarity 99.2%; Pred. No. 2.4e-65;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPIFHRRGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFRQYFEETKCD 61
Db 122 SSSHPIFHRRGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFRQYFEETKCD 181
OY 62 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMDSKQAAMRFIRIDTACVLSRKAVRRA 121
Db 182 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMDSKQAAMRFIRIDTACVLSRKAVRRA 241

RESULT 4

09N2F0 ID 09N2F0 PRELIMINARY: PRT: 241 AA.
AC 09N2F0; 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE Beta-nerve growth factor (Fragment).
GN BETA-NGF.
OS Gorilla gorilla (gorilla).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Gorilla.
OX NCBI_TaxID=9593;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=GORILLA-UI;
RA Kitano T., Kobayakawa H., Saitou N.;
RT "Silver Project."
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL: AB037519; BAA90439.1; -.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
FT NON_TER 241 241
SQ SEQUENCE 241 AA: 26915 MW: 6F54D163C84B34 CRC64;

Query Match 98.5%; Score 648; DB 6; Length 241;
Best Local Similarity 99.2%; Pred. No. 2.4e-65;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPIFHRRGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFRQYFEETKCD 61
Db 122 SSSHPIFHRRGEFSVCDVSVMWGDKTTATDIDKGEVMVLGEVINNSVFRQYFEETKCD 181
OY 62 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMDSKQAAMRFIRIDTACVLSRKAVRRA 121
Db 182 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMDSKQAAMRFIRIDTACVLSRKAVRRA 241

RESULT 5

09N2E9 ID 09N2E9 PRELIMINARY: PRT: 241 AA.
AC 09N2E9; 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)

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DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE Beta-nerve growth factor (Fragment).
GN BETA-NGF.
OS Pongo pygmaeus (Orangutan).
OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Pongo.
OX NCBI_TaxID=9600;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=ORAN-U1.
RA Kitano T., Kobayakawa H., Saito N.;
RT "Silver Project.";
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB037520; BAA90440.1; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS0270; NGF_2; 1.
FT NON_TER 241
SQ SEQUENCE 241 AA; 26876 MW; DFC168E7E4E01F15 CRC64;

Query Match
Best Local Similarity 98.5%; Score 648; DB 6; Length 241;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPIFRHGEFSVCDVSVMVGDKTTATDIDKGEVAVLGEVINNSVFRQYFFETKCRD 61
DB 122 SSSHPIFRHGEFSVCDVSVMVGDKTTATDIDKGEVAVLGEVINNSVFRQYFFETKCRD 181
OY 62 PNPVDSGCRGIDSKHWNSTCTTHTFEVKALTMGKQAAAFRIRIDTACVCLSKAVRRA 121
DB 182 PNPVDSGCRGIDSKHWNSTCTTHTFEVKALTMGKQAAAFRIRIDTACVCLSKAVRRA 241

RESULT 6
O96P60 PRELIMINARY; PRT; 241 AA.
AC O96P60;
DT 01-DEC-2001 (TReMBLrel. 19, Created)
DT 01-DEC-2001 (TReMBLrel. 19, Last sequence update)
DT 01-MAR-2002 (TReMBLrel. 20, Last annotation update)
DE Nerve growth factor beta.
GN NGFB.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RA Zhang Y., Zhang B., Zhou Y., Peng X., Yuan J., Qiang B.;
RL Submitted (AUG-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF411526; AAL05874.1; -.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR PROSITE; PS00248; NGF_1; UNKNOWN_1.
DR PROSITE; PS0270; NGF_2; 1.
SQ SEQUENCE 241 AA; 26964 MW; 745216485C21E558 CRC64;

Query Match
Best Local Similarity 97.3%; Score 640; DB 4; Length 241;
Matches 117; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPIFRHGEFSVCDVSVMVGDKTTATDIDKGEVAVLGEVINNSVFRQYFFETKCRD 61
DB 122 SSSHPIFRHGEFSVCDVSVMVGDKTTATDIDKGEVAVLGEVINNSVFRQYFFETKCRD 181
OY 62 PNPVDSGCRGIDSKHWNSTCTTHTFEVKALTMGKQAAAFRIRIDTACVCLSKAVRRA 121
DB 182 PNPVDSGCRGIDSKHWNSTCTTHTFEVKALTMGKQAAAFRIRIDTACVCLSKAVRRA 241

DB 182 PNPVDSGCRGIDSKHWNSTCTTHTFEVKALTMGKQAAAFRIRIDTACVCLSKAVRRA 241

RESULT 7
O9N183 PRELIMINARY; PRT; 217 AA.
AC O9N183;
DT 01-OCT-2000 (TReMBLrel. 15, Created)
DT 01-OCT-2000 (TReMBLrel. 15, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE Beta nerve growth factor (Fragment).
OS Macaca fasciata (Japanese macaque).
OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheciae;
OC Cercopitheciae; Macaca.
OX NCBI_TaxID=9542;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=BLOOD;
RX MEDLINE=99270338; PubMed=10340513;
RA Okuno H., Tokuyama W., Li Y.X., Hashimoto T., Miyashita Y.;
RT "Quantitative evaluation of neurotrophin and trk mRNA expression in
RT visual and limbic areas along the occipito-temporo-hippocampal pathway
RT in adult macaque monkeys.";
RL J. Comp. Neurol. 408:378-398(1999).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=BLOOD;
RA Okuno H., Tokuyama W., Li Y.X., Hashimoto T., Miyashita Y.;
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF222682; AAF33790.1; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS0270; NGF_2; 1.
FT NON_TER 1
FT NON_TER 1
SQ SEQUENCE 217 AA; 24240 MW; 36A5A2D1DFCD8D5C CRC64;

Query Match
Best Local Similarity 87.8%; Score 578; DB 6; Length 217;
Matches 105; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPIFRHGEFSVCDVSVMVGDKTTATDIDKGEVAVLGEVINNSVFRQYFFETKCRD 61
DB 112 SSSHPIFRHGEFSVCDVSVMVGDKTTATDIDKGEVAVLGEVINNSVFRQYFFETKCRD 171
OY 62 PNPVDSGCRGIDSKHWNSTCTTHTFEVKALTMGKQAAAFRIRIDT 107
DB 172 PNPVDSGCRGIDSKHWNSTCTTHTFEVKALTMGKQAAAFRIRIDT 217

RESULT 8
O91XB4 PRELIMINARY; PRT; 294 AA.
AC O91XB4;
DT 01-DEC-2001 (TReMBLrel. 19, Created)
DT 01-DEC-2001 (TReMBLrel. 19, Last sequence update)
DT 01-JUN-2002 (TReMBLrel. 21, Last annotation update)
DE Similar to nerve growth factor, beta.
GN NGFB.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathii; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=SALIVARY GLAND;
RA Strausberg R.;
```

BL	Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
RL	EMBL: BC011123; AAI1123.1; "
DR	MGI:97321; NGF.
DR	InterPro: IPR002072; NGF.
DR	Pfam: PF00243; NGF_1.
DR	ProDom: PD002052; NGF_1.
DR	PROSITE: PS00248; NGF_1; UNKNOWN_1.
DR	PROSITE: PS50270; NGF_2; 1.
SQ	SEQUENCE 294 AA; 32326 MW; 99E7402DAC899229 CRC64;
 Query Match 80.4%; Score 529; DB 11; Length 294; Best Local Similarity 90.7%; Pred. No. 9.3e-52; Matches 97; Conservative 3; Mismatches 7; Indels 0; Gaps 0;	
Oy	2 SSSHIFHGEFSVCDSSVMVGDKTTATFDIGKEVMVLGEVINNSVFROYFEETKCRD 61 :::
Dd	188 STHVEFMHGEFSVCDSSVMVGDKTTATFDIGKEVYLAELVINNSVFROYFEETKCA 247
Oy	62 PNPVDSGCGIDSKHMNSCYTTHTFVKALTMGQQAAMRFRIIDTA 108
Dd	248 SNPVSOGCGIDSKHMNSCYTTHTFVKALTDEKQAAMRFRIIDTA 294
 RESULT 9	
ID	Q9OW38 PRELIMINARY; PRT; 241 AA.
AC	Q9OW38:
DT	01-DEC-2001 (TREMBLrel. 19, Created)
DT	01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT	01-MAR-2002 (TREMBLrel. 20, Last annotation update)
DE	Putative neurotrophic growth factor.
GN	NGF.
OS	Bothrops jararacussu (Jararacussu).
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC	Lepidodonta; Squamata; Scleroglossa; Serpentes; Colubroidae;
OC	Viperidae; Crotalinae; Bothrops.
OX	NCHI_TaxId=8726;
RN	[1]
RP	SEQUENCE FROM N.A.
RC	TISSUE-VENOM GLAND;
RA	Kashima S., Pereira J.O., Astolfi Filho S., Soares A.M., Cintre A.C.O., Giglio J.R., Franca S.C.; "Molecular cloning and cDNA sequence of a nerve growth factor precursor from Bothrops jararacussu venomous gland."; Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases. RL EMBL: AY007318; AAG12169.1; " DR InterPro: IPR002072; NGF. DR Pfam: PRD00243; NGF_1. DR ProDom: PD002052; NGF_1. DR PROSITE: PS00248; NGF_1; UNKNOWN_1. DR PROSITE: PS50270; NGF_2; 1.
SQ	SEQUENCE 241 AA; 27161 MW; AC57F72A6531ABF CRC64;
 Query Match 75.8%; Score 499; DB 13; Length 241; Best Local Similarity 75.9%; Pred. No. 1.8e-48; Matches 85; Conservative 19; Mismatches 8; Indels 0; Gaps 0;	
Oy	5 HPIFHGEFSVCDSSVMVGDKTTATFDIGKEVMVLGEVINNSVFROYFEETKCRDNP 64 :::
Dd	125 HPVHNHGEFSVCDSSVMVWANKTTATDIRNVTVVDVVNNINNYKYQEFTKCRPNP 184
Oy	65 VDSGGCGIDSKHMNSCYTTHTFVKALTMGQQAAMRFRIIDTACYLSRK 116 :::
Dd	185 VPTGCRGIDRHMNSCYTTHTFVKALTMEGNAASRFRIIDTACYVISRK 236
 RESULT 10	
ID	Q9DEZ9 PRELIMINARY; PRT; 241 AA.
AC	Q9DEZ9:
DT	01-MAR-2001 (TREMBLrel. 16, Created)
DT	01-MAR-2001 (TREMBLrel. 16, Last sequence update)
DT	01-DEC-2001 (TREMBLrel. 19, Last annotation update)

DE Nerve growth factor.
OS Crotales durissus terrificus (South American rattlesnake).
OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
CC Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidae;
OC Viperidae; Crotalinae; Crotalus.
NCBI_TaxID=8732;
[1]
RN SEQUENCE FROM N.A.
RP TISSUE=VENOM GLAND:
RC Hayashi M.A.F., Rads-Baptista G., Yamane T., Camargo A.C.M.;
RT "Cloning and sequence of a cDNA coding for a rattlesnake (Crotalus
RT durissus terrificus) nerve growth factor."
RL Submitted (SEP-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL: AF306533; AAC30924.1; -.
DR HSSP; P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR Pfam: PF00243; NGF; 1.
DR PRINTS; PRO0268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS0270; NGF_2; 1.
SQ SEQUENCE 241 AA; 27118 MW; 4A261F42C5D6F3F CRC64;

Query Match 74.8%; Score 492; DB 13; Length 241;
Best Local Similarity 75.0%; Pred. No. 1,1e-47;
Matches 84; Conservative 19; Mismatches 9; Indels 0; Gaps 0;

OY 5 HPIHFHGFSEVSDSVSWVGDKTTATDIDKREVMYLGEVININSYEROYFEETCRDNP 64
DB 125 HVHNRGEVSVDVWVANKTPTATDIRGNLTVFVWVNNINNNVYKQFEETCRDNP 184
II: |||:||||:||||:||||:||||:| | : |||:||||:||||:||||:||||:|
OY 65 VDSGCRGIDSKMWSYCTTHTFVVALMDCKQAMREIRIDTACVCLSRK 116
DB 185 VETGCRGIDARHMSYCTTHTFVALTMEGQASWREIRIDTACVCLSRK 236
I: |||||:||||:||||:||||:||||:| | : |||:||||:||||:||||:||||:|

RESULT 11
Q9TTC3 PRELIMINARY; PRT; 87 AA.
ID Q9TTC3
AC Q9TTC3;
DT 01-MAY-2000 (TREMBLrel. 13, Created)
DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)
DT 01-JUN-2001 (TREMBLrel. 17, Last annotation update)
DE Beta nerve growth factor (Fragment).
GN NGF.
OS Cervus elaphus scoticus.
OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidae;
OC Cervidae; Cervinae; Cervus.
NCBI_TaxID=109627;
OX NCBI_TaxID=109627;
RN [1]
RP SEQUENCE FROM N.A.
RA Robertson T.M., Stanton J.L., Clark D.E., Sheard P.W., Harris A.J.,
RA Suttle J.M.;
RT "NGF expression in Antler."
RL Submitted (Apr-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL: AF145043; AAF17235.1; -.
DR HSSP; P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS; PRO0268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS0270; NGF_2; 1.
FT NON_TER 1
FT NON_TER 87
SQ SEQUENCE 87 AA; 9876 MW; 17E06E49AF7A04A CRC64;

Query Match 69.8%; Score 459; DB 6; Length 87;
Best Local Similarity 95.4%; Pred. No. 1.9e-44;
Matches 83; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

FT NON_TER 1 1
 FT NON_TER 241 241
 SO SEQUENCE 241 AA: 27803 MW: AB95E457C7B07113 CRC64:

Query Match 51.4%; Score 338.5; DB 6; Length 241;
 Best Local Similarity 59.0%; Pred. No. 2.8e-30;
 Matches 59; Conservative 10; Mismatches 22; Indels 1; Gaps 1;

QY 9 HRGEFVCDSDSVVWVGDFTATADIKGEVNLGCVNINVSFYRQYFFETKCRDPNPVDSG 68
 DB 142 HRGEFVCDSDSLWYTDKSSAIDRGHGYVLGEIKTGNSPVKQYFETRCKEAPVKN 201

QY 69 GCRGIDSKHNSYCTTHTFVKALTMW-GKQAMRFIRIDT 107
 DB 202 GCRGIDSKHNSYCTTHTFVKALTMW-GKQAMRFIRIDT 241

RESULT 15
 ID Q9CYL3 PRELIMINARY; PRT; 153 AA.

AC Q9CYL3:
 DT 01-JUN-2001 (Tremblrel. 17, Created)
 DT 01-JUN-2001 (Tremblrel. 17, Last sequence update)
 DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
 DE Brain derived neurotrophic factor.
 GN BDNF.

OS Mus musculus (Mouse).
 CC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;

RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=EMBRYO;
 RX MEDLINE=21085660; PubMed=11217851;

RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 Atakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
 Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanka I.,
 Saito T., Okazaki Y., Gotohori T., Bono H., Kasukawa T., Saito R.,
 Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
 Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
 Schiml L.M., Staudt F., Suzuki R., Tomita M., Wagner L., Washio T.,
 Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
 Blake J., Botfield D., Boujunga N., Carninci P., de Bonaldo M.F.,
 Brownstein M.J., Bult C., Fletcher C., Fujita M., Gairboldi M.,
 Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
 Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
 Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
 Saeki H., Sato K., Schenbach C., Seta T., Shibata Y., Storch K.-F.,
 Suzuki H., Toyo-Oka K., Wang K.H., Weltz C., Whitaker C., Wilming L.,
 Wyshaw-Boris A., Yoshida K., Hasegawa Y., Kawai H., Kohsaki S.,
 Hayashizaki Y.;
 RA *Functional annotation of a full-length mouse cDNA collection.*;
 RT Nature 409:685-690(2001).
 RL EMBL: AK017559; BAB30805.1; -
 DR HSSP: P23560; 1B8W.
 DR MGD: MGI:88145; Bdnf.
 DR InterPro: IPR002072; NGF.
 DR Pfam: PF00243; NGF. 1.
 DR PRINTS: PR00268; NGF.
 DR PRODOM: PD002052; NGF. 1.
 DR SMART: SM00140; NGF. 1.
 DR SMART: PS00248; NGF. 1.
 DR PROSITE: PS0270; NGF. 2; 1.
 DR PROSITE: PS0270; NGF. 2; 1.
 SO SEQUENCE 153 AA: 17519 MW: CABEB8944CE5B37 CRC64;

Query Match 49.3%; Score 324.5; DB 11; Length 153;
 Best Local Similarity 54.9%; Pred. No. 6.3e-29;
 Matches 62; Conservative 14; Mismatches 34; Indels 3; Gaps 2;

QY 10 RGEFVCDSDSVVWV-GDKTATADIKGEVNLGCVNINVSFYRQYFFETKCRDPNPVDS 67
 DB 41 RGEFVCDSDSLWYTDKSSAIDRGHGYVLGEIKTGNSPVKQYFETRCKEAPVKN 100

QY 68 GCRGIDSKHNSYCTTHTFVKALTMW-GKQAMRFIRIDTACVCLSRKAVR 119
 DB 101 GCRGIDSKHNSYCTTHTFVKALTMW-GKQAMRFIRIDTACVCLSRKAVR 153
 Search completed: December 2, 2002, 15:12:01
 Job time : 19.7245 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 ; Search time 8.36928 Seconds
(without alignments)
425.386 Million cell updates/sec

Title: US-10-072-681-2

Perfect score: 658
Sequence: 1 PSSSHPIFHGFEVSCDSVS.....FIRIDPACVLSRKAVRRA 121

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%
Listing first 45 summaries

Database :

1: Issued Patents_AA:*
2: /cgn2_6/prodata/1/1aa/5A_COMB.pep:*
3: /cgn2_6/prodata/1/1aa/5B_COMB.pep:*
4: /cgn2_6/prodata/1/1aa/5C_COMB.pep:*
5: /cgn2_6/prodata/1/1aa/PCTUS_COMB.pep:*
6: /cgn2_6/prodata/1/1aa/ackfile01.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	658	100.0	121	4	US-09-675-503-2
2	651	98.9	120	3	US-08-970-865-2
3	651	98.9	120	4	US-09-363-573-2
4	648	98.5	120	1	US-08-440-049-3
5	648	98.5	120	2	US-08-441-513A-3
6	648	98.5	120	3	US-08-581-662-31
7	648	98.5	120	4	US-08-845-541B-1
8	648	98.5	120	4	US-09-066-065A-1
9	648	98.5	120	4	US-09-447-356-1
10	648	98.5	120	4	US-09-664-295-31
11	648	98.5	120	5	PCT-US95-06918-3
12	648	98.5	241	1	US-08-266-080B-4
13	648	98.5	241	1	US-08-451-947-5
14	648	98.5	241	2	US-08-424-826A-5
15	648	98.5	241	2	US-08-595-043A-75
16	648	98.5	241	3	US-08-970-865-1
17	648	98.5	241	3	US-08-928-694-5
18	648	98.5	241	4	US-09-363-573-1
19	648	98.5	241	4	US-09-447-356-3
20	648	98.5	241	5	PCT-US91-06950-5
21	648	98.5	241	5	PCT-US95-05423-4
22	648	98.5	242	4	US-09-675-503-1
23	639	97.1	119	3	US-08-753-642-2
24	639	97.1	119	3	US-08-753-642-2
25	639	97.1	119	3	US-08-753-642-2
26	639	97.1	119	3	US-08-753-642-2
27	639	97.1	119	3	US-08-753-642-2

28	634	96.4	120	4	US-08-845-541B-3	Sequence 3, Appl1
29	634	96.4	120	4	US-09-066-065A-3	Sequence 3, Appl1
30	631	95.9	120	4	US-08-845-541B-4	Sequence 4, Appl1
31	631	95.9	120	4	US-09-066-065A-4	Sequence 4, Appl1
32	626	95.1	120	4	US-08-845-541B-12	Sequence 12, Appl1
33	626	95.1	120	4	US-09-066-065A-12	Sequence 12, Appl1
34	625	95.0	120	4	US-08-845-541B-17	Sequence 17, Appl1
35	625	95.0	120	4	US-08-845-541B-20	Sequence 20, Appl1
36	625	95.0	120	4	US-09-066-065A-17	Sequence 17, Appl1
37	625	95.0	120	4	US-09-066-065A-20	Sequence 20, Appl1
38	623	94.7	120	4	US-08-845-541B-18	Sequence 18, Appl1
39	623	94.7	120	4	US-08-845-541B-21	Sequence 21, Appl1
40	623	94.7	120	4	US-09-066-065A-18	Sequence 18, Appl1
41	623	94.7	120	4	US-09-066-065A-21	Sequence 21, Appl1
42	620	94.2	120	4	US-08-845-541B-13	Sequence 13, Appl1
43	620	94.2	120	4	US-08-845-541B-19	Sequence 19, Appl1
44	620	94.2	120	4	US-09-066-065A-13	Sequence 13, Appl1
45	620	94.2	120	4	US-09-066-065A-19	Sequence 19, Appl1

ALIGNMENTS

```
RESULT 1
US-09-675-503-2
; Sequence 2, Application US/09675503
; Patent No. 6423831
; GENERAL INFORMATION:
; APPLICANT: Burton, Louis E.
; APPLICANT: Schmelzer, Charles H.
; APPLICANT: Beck, Joanne T.
; TITLE OF INVENTION: ISOLATION OF NEUROTROPHINS FROM A
; TITLE OF INVENTION: MIXTURE CONTAINING OTHER PROTEINS AND NEUROTROPHIN VARIANTS
; FILE REFERENCE: GEMENT.037C2
; CURRENT APPLICATION NUMBER: US/09/675,503
; CURRENT FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: 60/030838
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: 60/047855
; PRIOR FILING DATE: 1997-05-29
; PRIOR APPLICATION NUMBER: 08/970865
; PRIOR FILING DATE: 1997-11-14
; PRIOR APPLICATION NUMBER: 09/363573
; PRIOR FILING DATE: 1999-07-29
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-675-503-2

Query Match      100.0%; Score 658; DB 4; Length 121;
Best Local Similarity 100.0%; Pred. No. 4; le-75;
Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PSSSHPIFHGFEVSCDSVSVMGDKTTATDIDKEVYVLGEVNIINSVFRQYFEETKCR 60
DB 1 PSSSHPIFHGFEVSCDSVSVMGDKTTATDIDKEVYVLGEVNIINSVFRQYFEETKCR 60
QY 61 DPNVDSGCGKIDSKHNSYCTTHTFVKALTMGKKAARFIRIDPACVLSRKAVR 120
DB 61 DPNVDSGCGKIDSKHNSYCTTHTFVKALTMGKKAARFIRIDPACVLSRKAVR 120
QY 121 A 121
DB 121 A 121

RESULT 2
US-08-970-865-2
; Sequence 2, Application US/08970865
```

Patent No. 6005081
GENERAL INFORMATION:
APPLICANT: Louis E. Burton, Charles H. Schmelzer, Joanne T. Beck
TITLE OF INVENTION: Purification of NGF
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/970,865
FILING DATE: 14-NO. 6005081-1997
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/030838
FILING DATE: 11/15/1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/047855
FILING DATE: 5/29/1997
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, PhD., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P1063R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 120 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-970-865-2

Query Match 98.9%; Score 651; DB 3; Length 120;
Best Local Similarity 100.0%; Pred. No. 3.1e-74;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPFHRGFEVSCDSVWVGDKTTATDIDKGEVNLGEVINNSVFRQYFFETKCD 61
DB 1 SSSHPFHRGFEVSCDSVWVGDKTTATDIDKGEVNLGEVINNSVFRQYFFETKCD 60

QY 62 PNPVDSGCGIDSKHWNSTCTTHTFVKALITMDGKQAAWRFRIIDTACVLSRAVRA 121
DB 61 PNPVDSGCGIDSKHWNSTCTTHTFVKALITMDGKQAAWRFRIIDTACVLSRAVRA 120

RESULT 3
US-09-363-573-2
Sequence 2, Application US/09363573
Patent No. 6184360
GENERAL INFORMATION:
APPLICANT: Louis E. Burton, Charles H. Schmelzer, Joanne T. Beck
TITLE OF INVENTION: Purification of NGF
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/363,573
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/970,865
FILING DATE: 14-NO. 6184360-1997
APPLICATION NUMBER: 60/030838
FILING DATE: 11/15/1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/047855
FILING DATE: 5/29/1997
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, PhD., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P1063R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 120 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-09-363-573-2

Query Match 98.9%; Score 651; DB 4; Length 120;
Best Local Similarity 100.0%; Pred. No. 3.1e-74;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPFHRGFEVSCDSVWVGDKTTATDIDKGEVNLGEVINNSVFRQYFFETKCD 61
DB 1 SSSHPFHRGFEVSCDSVWVGDKTTATDIDKGEVNLGEVINNSVFRQYFFETKCD 60

QY 62 PNPVDSGCGIDSKHWNSTCTTHTFVKALITMDGKQAAWRFRIIDTACVLSRAVRA 121
DB 61 PNPVDSGCGIDSKHWNSTCTTHTFVKALITMDGKQAAWRFRIIDTACVLSRAVRA 120

RESULT 4
US-08-440-049-3
Sequence 3, Application US/08440049
Patent No. 5728803
GENERAL INFORMATION:
APPLICANT: Ufieri, Roman
APPLICANT: Presta, Leonard G.
APPLICANT: Winslow, John W.
TITLE OF INVENTION: PANTROPIC NEUROTROPIC FACTORS
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/440,049
FILING DATE: 12-May-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/253937
FILING DATE: 03-JUN-1994
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0905C2


```
TELECOMMUNICATION INFORMATION:
: TELEPHONE: 415/225-8674
: TELEFAX: 415/952-9881
: TELE: 910/371-7168
: INFORMATION FOR SEQ ID NO: 3:
: SEQUENCE CHARACTERISTICS:
:   LENGTH: 120 amino acids
:   TYPE: Amino Acid
:   TOPOLOGY: Linear
US-08-440-049-3

Query Match          98.5%; Score 648; DB 1; Length 120;
Best Local Similarity 99.2%; Pred. No. 7.4e-74;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 2 SSSHPHFHGFSEVCDSVVWVGDKTTATDIDKGEVWVLGEVININSVFROYFFETKCRD 61
Db 1 SSSHPHFHGFSEVCDSVVWVGDKTTATDIDKGEVWVLGEVININSVFROYFFETKCRD 60

Qy 62 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRIRIDTACVCLSKRAVARA 121
Db 61 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRIRIDTACVCLSKRAVARA 120

RESULT 5
US-08-441-513A-3
: Sequence 3, Application US/08441513A
: Patent No. 5981480
: GENERAL INFORMATION:
:   APPLICANT: Urfert, Roman
:   APPLICANT: Presta, Leonard G.
:   APPLICANT: Winslow, John W.
:   TITLE OF INVENTION: Pantropic Neurotrophic Factors
:   NUMBER OF SEQUENCES: 20
:   CORRESPONDENCE ADDRESS:
:     ADDRESS: Genentech, Inc.
:     STREET: 1 DNA Way
:     CITY: South San Francisco
:     STATE: California
:     COUNTRY: USA
:     ZIP: 94080
: COMPUTER READABLE FORM:
:   MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
:   OPERATING SYSTEM: PC-DOS/MS-DOS
:   SOFTWARE: Winpatin (Genentech)
:   CURRENT APPLICATION DATA:
:     APPLICATION NUMBER: US/08/441.513A
:     FILING DATE: 15-May-1995
:   CLASSIFICATION: 435
:   PRIOR APPLICATION DATA:
:     APPLICATION NUMBER: 08/253937
:     FILING DATE: 03-JUN-1994
:     ATTORNEY/AGENT INFORMATION:
:       NAME: Torchia, PhD., Timothy E.
:       REGISTRATION NUMBER: 36,700
:       REFERENCE/DOCKET NUMBER: P0905C3
:     TELECOMMUNICATION INFORMATION:
:       TELEPHONE: 650/225-8674
:       TELEFAX: 650/952-9881
:       INFORMATION FOR SEQ ID NO: 3:
:     SEQUENCE CHARACTERISTICS:
:       LENGTH: 120 amino acids
:       TYPE: Amino Acid
:       TOPOLOGY: Linear
US-08-441-513A-3

Query Match          98.5%; Score 648; DB 2; Length 120;
Best Local Similarity 99.2%; Pred. No. 7.4e-74;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 2 SSSHPHFHGFSEVCDSVVWVGDKTTATDIDKGEVWVLGEVININSVFROYFFETKCRD 61
Db 1 SSSHPHFHGFSEVCDSVVWVGDKTTATDIDKGEVWVLGEVININSVFROYFFETKCRD 60
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Db 1 SSSHPHFHGFSEVCDSVVWVGDKTTATDIDKGEVWVLGEVININSVFROYFFETKCRD 60
Qy 62 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRIRIDTACVCLSKRAVARA 121
Db 61 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRIRIDTACVCLSKRAVARA 120

RESULT 6
US-08-581-662-31
: Sequence 31, Application US/08581662
: Patent No. 6121235
: GENERAL INFORMATION:
:   APPLICANT: Gao, Wei-Qiang
:   TITLE OF INVENTION: Treatment of Balance Impairments
:   FILE REFERENCE: P0981
:   CURRENT APPLICATION NUMBER: US/08/581.662
:   CURRENT FILING DATE: 1995-12-29
:   NUMBER OF SEQ ID NOS: 36
:   SEQ ID NO 31
:   LENGTH: 120
:   TYPE: PRT
:   ORGANISM: Homo sapiens
US-08-581-662-31

Query Match          98.5%; Score 648; DB 3; Length 120;
Best Local Similarity 99.2%; Pred. No. 7.4e-74;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 2 SSSHPHFHGFSEVCDSVVWVGDKTTATDIDKGEVWVLGEVININSVFROYFFETKCRD 61
Db 1 SSSHPHFHGFSEVCDSVVWVGDKTTATDIDKGEVWVLGEVININSVFROYFFETKCRD 60

Qy 62 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRIRIDTACVCLSKRAVARA 121
Db 61 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRIRIDTACVCLSKRAVARA 120

RESULT 7
US-08-845-541B-1
: Sequence 1, Application US/08845541B
: Patent No. 633310
: GENERAL INFORMATION:
:   APPLICANT: Urfert, Roman
:   APPLICANT: Presta, Leonard
:   APPLICANT: Winslow, John
:   TITLE OF INVENTION: NGF VARIANTS
:   FILE REFERENCE: GENENT.039A
:   CURRENT APPLICATION NUMBER: US/08/845.541B
:   CURRENT FILING DATE: 1999-04-25
:   NUMBER OF SEQ ID NOS: 38
:   SOFTWARE: FastSeq for Windows Version 4.0
:   SEQ ID NO 1
:   LENGTH: 120
:   TYPE: PRT
:   ORGANISM: homo sapien
US-08-845-541B-1

Query Match          98.5%; Score 648; DB 4; Length 120;
Best Local Similarity 99.2%; Pred. No. 7.4e-74;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 2 SSSHPHFHGFSEVCDSVVWVGDKTTATDIDKGEVWVLGEVININSVFROYFFETKCRD 61
Db 1 SSSHPHFHGFSEVCDSVVWVGDKTTATDIDKGEVWVLGEVININSVFROYFFETKCRD 60

Qy 62 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRIRIDTACVCLSKRAVARA 121
Db 61 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRIRIDTACVCLSKRAVARA 120

RESULT 8
US-09-066-065A-1
: Sequence 1, Application US/09066065A
```

```
; Patent No. 6365373
; GENERAL INFORMATION:
; APPLICANT: Leonard G. Presta, Roman Uifer, John W. Winslow
; TITLE OF INVENTION: NGF Variants
; NUMBER OF SEQUENCES: 21
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Winpatin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/066,065A
; FILING DATE: 24-Apr-1998
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 60/044918
; FILING DATE: 25-Apr-1999
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, PhD., Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P1098R1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-8674
; TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 120 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
; US-09-066-065A-1

Query Match          98.5%; Score 648; DB 4; Length 120;
Best Local Similarity 99.2%; Pred. No. 7.4e-74;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPFHRGFEYSVCDVSVWVGDKTTATDIDKGEVNLGEVINNSVFRQYFEETKCRD 61
    |||||||
DB 1 SSSHPFHRGFEYSVCDVSVWVGDKTTATDIDKGEVNLGEVINNSVFRQYFEETKCRD 60
QY 62 PNPVDSGCGRIGDSKHNNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVARRA 121
    |||||||
DB 61 PNPVDSGCGRIGDSKHNNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVARRA 120

RESULT 9
US-09-447-356-1
; Sequence 1, Application US/09447356
; Patent No. 6395513
; GENERAL INFORMATION:
; APPLICANT: FOSTER, KEITH ALAN
; APPLICANT: DUGGAN, MICHAEL JOHN
; APPLICANT: SHONE, CLIFFORD CHARLES
; TITLE OF INVENTION: CLOSTRIDIAL TOXIN DERIVATIVES ABLE TO MODIFY PERIPHERAL
; TITLE OF INVENTION: SENSOR AFFERENT FUNCTIONS
; FILE REFERENCE: 023223/0104
; CURRENT APPLICATION NUMBER: US/09/447,356
; CURRENT FILING DATE: 1999-11-22
; PRIOR APPLICATION NUMBER: 08/945,037
; PRIOR FILING DATE: 1998-01-12
; PRIOR APPLICATION NUMBER: GB 9508204.6
; PRIOR FILING DATE: 1995-04-21
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
; LENGTH: 120
; TYPE: PRT
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; ORGANISM: Murine sp.
; US-09-447-356-1

Query Match          98.5%; Score 648; DB 4; Length 120;
Best Local Similarity 99.2%; Pred. No. 7.4e-74;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPFHRGFEYSVCDVSVWVGDKTTATDIDKGEVNLGEVINNSVFRQYFEETKCRD 61
    |||||||
DB 1 SSSHPFHRGFEYSVCDVSVWVGDKTTATDIDKGEVNLGEVINNSVFRQYFEETKCRD 60
QY 62 PNPVDSGCGRIGDSKHNNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVARRA 121
    |||||||
DB 61 PNPVDSGCGRIGDSKHNNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVARRA 120

RESULT 10
US-09-664-295-31
; Sequence 31, Application US/09664295
; Patent No. 6429196
; GENERAL INFORMATION:
; APPLICANT: Gao, Wei-Qiang
; TITLE OF INVENTION: Treatment of Balance Impairments
; FILE REFERENCE: GENENT.051C1
; CURRENT APPLICATION NUMBER: US/09/664,295
; CURRENT FILING DATE: 2000-09-18
; PRIOR APPLICATION NUMBER: US 08/581,662
; PRIOR FILING DATE: 1995-12-29
; NUMBER OF SEQ ID NOS: 37
; SEQ ID NO 31
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-09-664-295-31

Query Match          98.5%; Score 648; DB 4; Length 120;
Best Local Similarity 99.2%; Pred. No. 7.4e-74;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPFHRGFEYSVCDVSVWVGDKTTATDIDKGEVNLGEVINNSVFRQYFEETKCRD 61
    |||||||
DB 1 SSSHPFHRGFEYSVCDVSVWVGDKTTATDIDKGEVNLGEVINNSVFRQYFEETKCRD 60
QY 62 PNPVDSGCGRIGDSKHNNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVARRA 121
    |||||||
DB 61 PNPVDSGCGRIGDSKHNNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVARRA 120

RESULT 11
PCT-US95-06918-3
; Sequence 3, Application PC/TUS9506918
; GENERAL INFORMATION:
; APPLICANT: Genentech, Inc.
; TITLE OF INVENTION: PANITROPIC NEUROTROPIC FACTORS
; NUMBER OF SEQUENCES: 8
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US95/06918
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
```

FILING DATE: 06-APRIL-1990
ATTORNEY/AGENT INFORMATION:
NAME: Barry J. Swanson
REGISTRATION NUMBER: 33,215
REFERENCE/DOCKET NUMBER: SYNEZ00C5
TELECOMMUNICATION INFORMATION:
TELEPHONE: (303) 793-3333
TELEFAX: (303) 793-3433
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 241 amino acids
TYPE: amino acid
TOPOLOGY: linear
FEATURE:
NAME/KEY: Inferred amino acid sequence of human NGF
US-08-266-080B-4
Query Match 98.5%; Score 648; DB 1; Length 241;
Best Local Similarity 99.2%; Pred. No. 1.9e-73; Indels 0; Gaps 0;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 2 SSSHPHFHGFSEVCDVSVMVGDKTTATDIDKGEVNLGEVINNSVFRQYFEETKCRD 61
DB 122 SSSHPHFHGFSEVCDVSVMVGDKTTATDIDKGEVNLGEVINNSVFRQYFEETKCRD 181
QY 62 PNPVDSGCRGIDSKHMSYCTTHTFPVKALTMDSKQAMRIRIDTACVCLSKRAVRA 121
DB 182 PNPVDSGCRGIDSKHMSYCTTHTFPVKALTMDSKQAMRIRIDTACVCLSKRAVRA 241

RESULT 12
US-08-266-080B-4
Sequence 4, Application US/08266080B
Patent No. 5606031
GENERAL INFORMATION:
APPLICANT: Jack Lille
APPLICANT: Dadehiko Kohno
APPLICANT: Duane Bonam
TITLE OF INVENTION: Production of Biologically Active
TITLE OF INVENTION: Recombinant Neurotrophic Protein
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Swanson & Bratschun, L.L.C.
STREET: 8400 E. Prentice Avenue, Suite 200
CITY: Englewood
STATE: Colorado
COUNTRY: USA
ZIP: 80111
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 360 Kb storage
COMPUTER: IBM compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: WordPerfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/266,080B
FILING DATE: 27-JUNE-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/240,122
FILING DATE: 09-MAY-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/087,912
FILING DATE: 06-JULY-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/680,681
FILING DATE: 04-APRIL-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/594,126
FILING DATE: 09-OCT-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/547,750
FILING DATE: 02-JULY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/505,441

FILING DATE: 06-APRIL-1990
ATTORNEY/AGENT INFORMATION:
NAME: Barry J. Swanson
REGISTRATION NUMBER: 33,215
REFERENCE/DOCKET NUMBER: SYNEZ00C5
TELECOMMUNICATION INFORMATION:
TELEPHONE: (303) 793-3333
TELEFAX: (303) 793-3433
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 241 amino acids
TYPE: amino acid
TOPOLOGY: linear
FEATURE:
NAME/KEY: Inferred amino acid sequence of human NGF
US-08-266-080B-4
Query Match 98.5%; Score 648; DB 1; Length 241;
Best Local Similarity 99.2%; Pred. No. 1.9e-73; Indels 0; Gaps 0;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 2 SSSHPHFHGFSEVCDVSVMVGDKTTATDIDKGEVNLGEVINNSVFRQYFEETKCRD 61
DB 122 SSSHPHFHGFSEVCDVSVMVGDKTTATDIDKGEVNLGEVINNSVFRQYFEETKCRD 181
QY 62 PNPVDSGCRGIDSKHMSYCTTHTFPVKALTMDSKQAMRIRIDTACVCLSKRAVRA 121
DB 182 PNPVDSGCRGIDSKHMSYCTTHTFPVKALTMDSKQAMRIRIDTACVCLSKRAVRA 241

RESULT 13
US-08-451-947-5
Sequence 5, Application US/08451947
Patent No. 5702906
GENERAL INFORMATION:
APPLICANT: GENENTECH, INC.
APPLICANT: ROSENTHAL, ARNON
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patlin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/451,947
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2CID2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674

TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 241 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-451-947-5

Query Match 98.5%; Score 648; DB 1; Length 241;
Best Local Similarity 99.2%; Pred. No. 1.9e-73;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPFHRGEEVCDVSVMVGDKTTATDIDKGEVNLGEVNNINSVPROYFEETKCRD 61
DB 122 SSSHPFHRGEEVCDVSVMVGDKTTATDIDKGEVNLGEVNNINSVPROYFEETKCRD 181
QY 62 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVRA 121
DB 182 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVRA 241

RESULT 14

US-08-424-826A-5
Sequence 5, Application US/08424826A
Patent No. 5830858
GENERAL INFORMATION:
APPLICANT: Rosenthal, Arnon
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 98
CORRESPONDENCE ADDRESS:
ADDRESS: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/424,826A
FILING DATE: 19-Apr-1995
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/240387
FILING DATE: 10-May-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 25-SEP-1990
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, PhD., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0666P1C2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 241 amino acids
TYPE: Amino Acid
TOPOLOGY: linear
US-08-424-826A-5

Query Match 98.5%; Score 648; DB 2; Length 241;
Best Local Similarity 99.2%; Pred. No. 1.9e-73;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPFHRGEEVCDVSVMVGDKTTATDIDKGEVNLGEVNNINSVPROYFEETKCRD 61
DB 122 SSSHPFHRGEEVCDVSVMVGDKTTATDIDKGEVNLGEVNNINSVPROYFEETKCRD 181
QY 62 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVRA 121
DB 182 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVRA 241

RESULT 15

US-08-595-043A-75
Sequence 75, Application US/08595043A
Patent No. 5935824
GENERAL INFORMATION:
APPLICANT: SGARLATO, GREGORY D.
TITLE OF INVENTION: PROTEIN EXPRESSION SYSTEM
NUMBER OF SEQUENCES: 90
CORRESPONDENCE ADDRESS:
ADDRESS: MEDLEN & CARROLL
STREET: 220 MONTGOMERY STREET, SUITE 2200
CITY: SAN FRANCISCO
STATE: CALIFORNIA
COUNTRY: UNITED STATES OF AMERICA
ZIP: 94104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/595,043A
FILING DATE: 31-JAN-1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CARROLL, PETER G.
REGISTRATION NUMBER: 32,837
REFERENCE/DOCKET NUMBER: SGAR-00371
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 705-8410
TELEFAX: (415) 397-8338
INFORMATION FOR SEQ ID NO: 75:
SEQUENCE CHARACTERISTICS:
LENGTH: 241 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-595-043A-75

Query Match 98.5%; Score 648; DB 2; Length 241;
Best Local Similarity 99.2%; Pred. No. 1.9e-73;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSSHPFHRGEEVCDVSVMVGDKTTATDIDKGEVNLGEVNNINSVPROYFEETKCRD 61
DB 122 SSSHPFHRGEEVCDVSVMVGDKTTATDIDKGEVNLGEVNNINSVPROYFEETKCRD 181
QY 62 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVRA 121
DB 182 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAARFIRIDTACVLSRAVRA 241

Search completed: December 2, 2002, 15:09:42
Job time: 8.36928 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:08:47 : Search time 4.25557 Seconds
(without alignments)
452.778 Million cell updates/sec

Title: US-10-072-681-2

Perfect score: 658
Sequence: 1 PSSHPHFRHGEFVSVCDSVS.....FIRIDRACVLSRKAVRRA 121

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 102317 seqs, 15924203 residues

Total number of hits satisfying chosen parameters: 102317

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: Published_Applications_AA:*

1: /cgn2_6/ptodata/1/pubppa/US08_NEW_PUB.pep:*
2: /cgn2_6/ptodata/1/pubppa/PCF_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubppa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubppa/US07_NEW_PUB.pep:*
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6: /cgn2_6/ptodata/1/pubppa/US07_PUBCOMB.pep:*
7: /cgn2_6/ptodata/1/pubppa/PCFUS_PUBCOMB.pep:*
8: /cgn2_6/ptodata/1/pubppa/US08_PUBCOMB.pep:*
9: /cgn2_6/ptodata/1/pubppa/US09_NEW_PUB.pep:*
10: /cgn2_6/ptodata/1/pubppa/US09_PUBCOMB.pep:*
11: /cgn2_6/ptodata/1/pubppa/US10_NEW_PUB.pep:*
12: /cgn2_6/ptodata/1/pubppa/US10_PUBCOMB.pep:*
13: /cgn2_6/ptodata/1/pubppa/US60_NEW_PUB.pep:*
14: /cgn2_6/ptodata/1/pubppa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	658	100.0	121	12	US-10-072-681-2
2	648	98.5	241	8	US-08-450-842-5
3	648	98.5	241	10	US-09-822-263-16
4	648	98.5	242	12	US-10-072-681-1
5	639	97.1	153	10	US-09-798-338-2
6	639	97.1	157	10	US-09-798-338-4
7	639	97.1	163	10	US-09-798-338-6
8	639	97.1	167	10	US-09-798-338-8
9	623	95.0	121	10	US-09-813-398-9
10	623	95.0	121	12	US-10-072-681-3
11	455	69.1	142	8	US-08-450-842-52
12	387	58.8	72	10	US-09-848-664-21
13	385.5	58.6	119	10	US-09-745-032-6
14	385.5	58.6	119	10	US-09-742-600-6
15	385.5	58.6	119	10	US-09-742-090-6
16	385.5	58.6	120	10	US-09-745-032-3
17	385.5	58.6	120	10	US-09-742-600-3
18	385.5	58.6	120	10	US-09-872-090-3
19	384.5	58.4	117	10	US-09-745-032-7

ALIGNMENTS

20	384.5	58.4	117	10	US-09-742-600-7	Sequence 7, App11
21	384.5	58.4	117	10	US-09-872-090-7	Sequence 7, App11
22	384.5	58.4	118	10	US-09-745-032-5	Sequence 5, App11
23	384.5	58.4	118	10	US-09-742-600-5	Sequence 5, App11
24	384.5	58.4	118	10	US-09-872-090-5	Sequence 5, App11
25	380.5	57.8	120	10	US-09-745-032-1	Sequence 1, App11
26	380.5	57.8	120	10	US-09-742-600-1	Sequence 1, App11
27	380.5	57.8	120	10	US-09-872-090-1	Sequence 1, App11
28	380.5	57.8	257	8	US-08-450-842-4	Sequence 4, App11
29	374	56.8	120	9	US-09-813-398-11	Sequence 11, App1
30	371	56.4	120	12	US-10-072-681-5	Sequence 5, App11
31	334.5	50.8	120	10	US-09-745-032-10	Sequence 10, App1
32	334.5	50.8	120	10	US-09-742-600-10	Sequence 10, App1
33	330.5	50.2	120	10	US-09-745-032-9	Sequence 9, App11
34	330.5	50.2	120	10	US-09-742-600-9	Sequence 9, App11
35	326.5	49.6	130	8	US-08-450-842-7	Sequence 47, App1
36	324.5	49.3	120	10	US-09-745-032-8	Sequence 8, App11
37	324.5	49.3	120	10	US-09-742-600-8	Sequence 8, App11
38	324.5	49.3	247	8	US-08-450-842-3	Sequence 3, App11
39	313	47.6	132	8	US-08-450-842-51	Sequence 51, App1
40	309.5	47.0	130	8	US-08-450-842-23	Sequence 23, App1
41	308.5	46.9	119	12	US-10-072-681-4	Sequence 4, App11
42	307.5	46.7	130	8	US-08-450-842-22	Sequence 22, App1
43	307.5	46.7	131	9	US-09-813-398-12	Sequence 12, App1
44	307.5	46.7	168	8	US-08-450-842-6	Sequence 6, App11
45	307.5	46.7	210	8	US-08-450-842-2	Sequence 2, App11

RESULT 1
US-10-072-681-2
Sequence 2, Application US/10072681
Patent No. US20020137893A1
GENERAL INFORMATION:
APPLICANT: Burton, Louis E.
APPLICANT: Schmelzer, Charles H.
TITLE OF INVENTION: PURIFICATION OF NGF
FILE REFERENCE: GENENT.037C3
CURRENT APPLICATION NUMBER: US/10/072, 681
CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: 60/030838
PRIOR FILING DATE: 1996-11-15
PRIOR APPLICATION NUMBER: 60/047855
PRIOR FILING DATE: 1997-05-29
PRIOR APPLICATION NUMBER: 08/970865
PRIOR FILING DATE: 1997-11-14
PRIOR APPLICATION NUMBER: 09/363573
PRIOR FILING DATE: 1999-07-29
PRIOR APPLICATION NUMBER: 09/675, 503
PRIOR FILING DATE: 2000-09-29
NUMBER OF SEQ ID NOS: 6
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 121
TYPE: PRT
ORGANISM: Homo sapien
US-10-072-681-2

Query Match 100.0%; Score 658; DB 12; Length 121;

Best Local Similarity 100.0%; Pred. No. 5.2e-69; Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PSSHPHFRHGEFVSVCDSVSVDKTTATDICKREVMVGEVNIINSVPROFFERKCR 60
DB 1 PSSHPHFRHGEFVSVCDSVSVDKTTATDICKREVMVGEVNIINSVPROFFERKCR 60
QY 61 DPNVDSGCRIDSKHNNSTCTTHTFEVKALTMGKQAAWRFIRIDRACVLSRKAVR 120
DB 61 DPNVDSGCRIDSKHNNSTCTTHTFEVKALTMGKQAAWRFIRIDRACVLSRKAVR 120

OY 121 A 121
DB 121 A 121

RESULT 2

US-08-450-842-5
; Sequence 5, Application US/08450842
; Patent No. US20020045576A1
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/450,842
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-JAN
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: 666P2C1D3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/252-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 241 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; US-08-450-842-5

Query Match 98.5%; Score 648; DB 8; Length 241;

Best Local Similarity 99.2%; Pred. No. 1,7e-67;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPFIRHGEFSVCDVSVMGDKTTATDIDIKKEVMVLGEVINNSVFRQYFEETKCRD 61
DB 122 SSSHPFIRHGEFSVCDVSVMGDKTTATDIDIKKEVMVLGEVINNSVFRQYFEETKCRD 181
OY 62 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMGKQAAAMRFIRIDTACVLSRKAARRA 121
DB 182 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMGKQAAAMRFIRIDTACVLSRKAARRA 241

RESULT 3

US-09-822-263-16
; Sequence 16, Application US/09822263

Patent No. US20020036598A1
; GENERAL INFORMATION:
; APPLICANT: Prayaga, Sudhirdas
; APPLICANT: Vermet, Corinne
; APPLICANT: Shimkets, Richard A
; APPLICANT: Burgess, Catherine
; APPLICANT: Spytek, Kimberly
; APPLICANT: Tchernev, Vellizar T
; TITLE OF INVENTION: No. US20020036598A1el Polynucleotides and Polypeptides Encoded
; FILE REFERENCE: 15966-572 CIP1
; CURRENT APPLICATION NUMBER: US/09/822,263
; CURRENT FILING DATE: 2001-06-15
; PRIOR APPLICATION NUMBER: 09/672,665
; PRIOR FILING DATE: 2000-09-28
; PRIOR APPLICATION NUMBER: 60/156,745
; PRIOR FILING DATE: 1999-09-30
; PRIOR APPLICATION NUMBER: 60/158,942
; PRIOR FILING DATE: 1999-10-06
; PRIOR APPLICATION NUMBER: 60/159,248
; PRIOR FILING DATE: 1999-10-13
; PRIOR APPLICATION NUMBER: 60/169,344
; PRIOR FILING DATE: 1999-12-06
; PRIOR APPLICATION NUMBER: 60/215,048
; PRIOR FILING DATE: 2000-09-29
; NUMBER OF SEQ ID NOS: 36
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 16
; LENGTH: 241
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-09-822-263-16

Query Match 98.5%; Score 648; DB 10; Length 241;

Best Local Similarity 99.2%; Pred. No. 1,7e-67;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPFIRHGEFSVCDVSVMGDKTTATDIDIKKEVMVLGEVINNSVFRQYFEETKCRD 61
DB 122 SSSHPFIRHGEFSVCDVSVMGDKTTATDIDIKKEVMVLGEVINNSVFRQYFEETKCRD 181
OY 62 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMGKQAAAMRFIRIDTACVLSRKAARRA 121
DB 182 PNPVDSGCRGIDSKHWNSTCTTHTFVKALTMGKQAAAMRFIRIDTACVLSRKAARRA 241

RESULT 4

US-10-072-681-1
; Sequence 1, Application US/10072681
; Patent No. US20020137893A1
; GENERAL INFORMATION:
; APPLICANT: Burton, Louis E.
; APPLICANT: Schmelzer, Charles H.
; TITLE OF INVENTION: PURIFICATION OF NGF
; FILE REFERENCE: GENENT.037C3
; CURRENT APPLICATION NUMBER: US/10/072,681
; CURRENT FILING DATE: 2002-02-08
; PRIOR APPLICATION NUMBER: 60/030838
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: 60/047855
; PRIOR FILING DATE: 1997-05-29
; PRIOR APPLICATION NUMBER: 08/970865
; PRIOR FILING DATE: 1997-11-14
; PRIOR APPLICATION NUMBER: 09/363573
; PRIOR FILING DATE: 1999-07-29
; PRIOR APPLICATION NUMBER: 09/675,503
; PRIOR FILING DATE: 2000-09-29
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 242
; TYPE: PRT
; ORGANISM: Homo sapien

US-10-072-681-1

Query Match 98.5%; Score 648; DB 12; Length 242;
Best Local Similarity 99.2%; Pred. No. 1.7e-67;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPFHRGEFVSVDVSVWVGDKTTATDICKKEVAVLGEVINNSVPROYFEETKCRD 61
DB 123 SSSHPFHRGEFVSVDVSVWVGDKTTATDICKKEVAVLGEVINNSVPROYFEETKCRD 182
OY 62 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 121
DB 183 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 242

RESULT 5

US-09-798-338-2
Sequence 2, Application US/09798338
Patent No. US20010020086A1

GENERAL INFORMATION:
APPLICANT: Schense, Jeffrey A.
APPLICANT: Sakiyama, Shelly E.
TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
FILE REFERENCE: 87662-68879
CURRENT APPLICATION NUMBER: US/09/798,338
PRIOR FILING DATE: 2001-03-02
PRIOR APPLICATION NUMBER: 09/141,153
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentln Ver. 2.0
SEQ ID NO 2
LENGTH: 153
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-2

Query Match 97.1%; Score 639; DB 10; Length 153;
Best Local Similarity 99.2%; Pred. No. 1.1e-66;
Matches 117; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPFHRGEFVSVDVSVWVGDKTTATDICKKEVAVLGEVINNSVPROYFEETKCRD 61
DB 35 SSSHPFHRGEFVSVDVSVWVGDKTTATDICKKEVAVLGEVINNSVPROYFEETKCRD 94
OY 62 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 119
DB 95 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 152

RESULT 6

US-09-798-338-4
Sequence 4, Application US/09798338
Patent No. US20010020086A1

GENERAL INFORMATION:
APPLICANT: Hubbell, Jeffrey A.
APPLICANT: Schense, Jason C.
APPLICANT: Sakiyama, Shelly E.
TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
FILE REFERENCE: 87662-68879
CURRENT APPLICATION NUMBER: US/09/798,338
PRIOR FILING DATE: 2001-03-02
PRIOR APPLICATION NUMBER: 09/141,153
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentln Ver. 2.0
SEQ ID NO 4
LENGTH: 157

TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-4

Query Match 97.1%; Score 639; DB 10; Length 157;
Best Local Similarity 99.2%; Pred. No. 1.2e-66;
Matches 117; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPFHRGEFVSVDVSVWVGDKTTATDICKKEVAVLGEVINNSVPROYFEETKCRD 61
DB 39 SSSHPFHRGEFVSVDVSVWVGDKTTATDICKKEVAVLGEVINNSVPROYFEETKCRD 98
OY 62 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 119
DB 99 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 156

RESULT 7

US-09-798-338-6
Sequence 6, Application US/09798338
Patent No. US20010020086A1

GENERAL INFORMATION:
APPLICANT: Hubbell, Jeffrey A.
APPLICANT: Schense, Jason C.
APPLICANT: Sakiyama, Shelly E.
TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
FILE REFERENCE: 87662-68879
CURRENT APPLICATION NUMBER: US/09/798,338
PRIOR FILING DATE: 2001-03-02
PRIOR APPLICATION NUMBER: 09/141,153
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentln Ver. 2.0
SEQ ID NO 6
LENGTH: 163
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-6

Query Match 97.1%; Score 639; DB 10; Length 163;
Best Local Similarity 99.2%; Pred. No. 1.2e-66;
Matches 117; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPFHRGEFVSVDVSVWVGDKTTATDICKKEVAVLGEVINNSVPROYFEETKCRD 61
DB 45 SSSHPFHRGEFVSVDVSVWVGDKTTATDICKKEVAVLGEVINNSVPROYFEETKCRD 104
OY 62 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 119
DB 105 PNPVDSGCRGIDSKHMNSYCTTHTTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 162

RESULT 8

US-09-798-338-8
Sequence 8, Application US/09798338
Patent No. US20010020086A1

GENERAL INFORMATION:
APPLICANT: Hubbell, Jeffrey A.
APPLICANT: Schense, Jason C.
APPLICANT: Sakiyama, Shelly E.
TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
FILE REFERENCE: 87662-68879
CURRENT APPLICATION NUMBER: US/09/798,338
PRIOR FILING DATE: 2001-03-02
PRIOR APPLICATION NUMBER: 09/141,153

;; PRIOR FILING DATE: 1998-08-27
;; NUMBER OF SEQ ID NOS: 9
;; SOFTWARE: PatentIn Ver. 2.0
;; SEQ ID NO 8
;; LENGTH: 167
;; TYPE: PRT
;; ORGANISM: Artificial Sequence
;; FEATURE:
;; OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-8

Query Match 97.1%; Score 639; DB 10; Length 167;
Best Local Similarity 99.2%; Pred. No. 1.2e-66;
Matches 117; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSSHPHFRGEFSVCDSSVWVGDKTTATDIDKGEVNLGEVNINNSVFRQYFEETKCRD 61
DB 49 SSSHPHFRGEFSVCDSSVWVGDKTTATDIDKGEVNLGEVNINNSVFRQYFEETKCRD 108
DB 109 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSKRAVR 166

RESULT 9
US-09-813-398-9
;; Sequence 9, Application US/09813398
;; Patent No. US20020169292A1
;; GENERAL INFORMATION:
;; APPLICANT: Bruce D. Weintraub
;; APPLICANT: Mariusz W. Sekudlinski
;; APPLICANT: University of Maryland
;; TITLE OF INVENTION: CYSTINE KNOT GROWTH FACTOR MUTANTS
;; FILE REFERENCE: USFMD.003C1
;; CURRENT APPLICATION NUMBER: US/09/813.398
;; CURRENT FILING DATE: 2001-03-20
;; PRIOR APPLICATION NUMBER: PCT/US99/05908
;; PRIOR FILING DATE: 1999-03-19
;; PRIOR APPLICATION NUMBER: PCT/US98/19772
;; PRIOR FILING DATE: 1998-09-22
;; NUMBER OF SEQ ID NOS: 41
;; SOFTWARE: FASTSEQ for Windows Version 4.0
;; SEQ ID NO 9
;; LENGTH: 121
;; TYPE: PRT
;; ORGANISM: HOMO SAPIEN
US-09-813-398-9

Query Match 95.0%; Score 625; DB 9; Length 121;
Best Local Similarity 95.0%; Pred. No. 3.3e-65;
Matches 115; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

OY 1 PSSSHPIFRGEFSVCDSSVWVGDKTTATDIDKGEVNLGEVNINNSVFRQYFEETKCR 60
DB 1 PSSSHPIFRGEFSVCDSSVWVGDKTTATDIDKGEVNLGEVNINNSVFRQYFEETKCR 60
OY 61 DPNPVDGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSKRAVR 120
DB 61 DPNPVDGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSKRAVR 120

OY 121 A 121
DB 121 A 121

RESULT 10
US-10-072-681-3
;; Sequence 3, Application US/10072681
;; Patent No. US20020137893A1
;; GENERAL INFORMATION:
;; APPLICANT: Burton, Louis E.
;; APPLICANT: Schmelzer, Charles H.

;; APPLICANT: Beck, Joanne T.
;; TITLE OF INVENTION: PURIFICATION OF NGF
;; FILE REFERENCE: GENENT.037c3
;; CURRENT APPLICATION NUMBER: US/10/072.681
;; CURRENT FILING DATE: 2002-02-08
;; PRIOR APPLICATION NUMBER: 60/030838
;; PRIOR FILING DATE: 1996-11-15
;; PRIOR APPLICATION NUMBER: 60/047855
;; PRIOR FILING DATE: 1997-05-29
;; PRIOR APPLICATION NUMBER: 08/970865
;; PRIOR FILING DATE: 1997-11-14
;; PRIOR APPLICATION NUMBER: 09/363573
;; PRIOR FILING DATE: 1999-07-29
;; PRIOR APPLICATION NUMBER: 09/675.503
;; PRIOR FILING DATE: 2000-09-29
;; NUMBER OF SEQ ID NOS: 6
;; SOFTWARE: FASTSEQ for Windows Version 4.0
;; SEQ ID NO 3
;; LENGTH: 121
;; TYPE: PRT
;; ORGANISM: mouse
US-10-072-681-3

Query Match 90.3%; Score 594; DB 12; Length 121;
Best Local Similarity 90.8%; Pred. No. 1.3e-61;
Matches 109; Conservative 3; Mismatches 8; Indels 0; Gaps 0;

OY 1 PSSSHPIFRGEFSVCDSSVWVGDKTTATDIDKGEVNLGEVNINNSVFRQYFEETKCR 60
DB 1 PSSHPHFRGEFSVCDSSVWVGDKTTATDIDKGEVNLGEVNINNSVFRQYFEETKCR 60
OY 61 DPNPVDGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSKRAVR 120
DB 61 ASNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAAAFRIRIDTACVCLSKRAVR 120

RESULT 11
US-08-450-842-52
;; Sequence 52, Application US/08450842
;; Patent No. US20020045576A1
;; GENERAL INFORMATION:
;; APPLICANT: GENENTECH, INC.
;; APPLICANT: ROSENTHAL, ARNON
;; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
;; NUMBER OF SEQUENCES: 100
;; CORRESPONDENCE ADDRESS:
;; ADDRESSEE: Genentech, Inc.
;; STREET: 460 Point San Bruno Blvd
;; CITY: South San Francisco
;; STATE: California
;; COUNTRY: USA
;; ZIP: 94080
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
;; COMPUTER: IBM PC compatible
;; OPERATING SYSTEM: PC-DOS/MS-DOS
;; SOFTWARE: patin (Genentech)
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/08/450.842
;; FILING DATE:
;; CLASSIFICATION: 514
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: 08/426419
;; FILING DATE: 19-APR-1995
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: 08/030013
;; FILING DATE: 22-MAR-1993
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: 07/648482
;; FILING DATE: 31-JAN
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: 07/587707
;; FILING DATE: 1991


```

? ATTORNEY/AGENT INFORMATION:
? NAME: Torchia, Timothy E.
? REGISTRATION NUMBER: 36,700
? REFERENCE/DOCKET NUMBER: 666P2CID03
? TELECOMMUNICATION INFORMATION:
? TELEPHONE: 415/225-8674
? TELEFAX: 415/952-9881
? TELEX: 910/371-7168
? INFORMATION FOR SEQ ID NO: 52:
? SEQUENCE CHARACTERISTICS:
? LENGTH: 142 amino acids
? TYPE: amino acid
? TOPOLOGY: linear
?
US-08-450-842-52
```

Query Match	69.1%	Score 455	DB 8:	Length 142:
Best Local Similarity	64.8%	Pred. No.	1.7e-45:	
Matches	92;	Conservative	11;	Mismatches 17; Indels 22; Gaps 4

[illegible]

RESULT 12
 US-09-848-664-21
 : Sequence 21, Application US/09848664
 : Patent No. US20020146414A1
 : GENERAL INFORMATION:
 : APPLICANT: Sakiyama-Elbert, Shelly E.
 : TITLE OF INVENTION: Controlled Release of No. US20020146414A1-Heparin Binding Growth
 : TITLE OF INVENTION: Factors from Heparin Containing Matrices
 : FILE REFERENCE: EPH 108
 : CURRENT APPLICATION NUMBER: US/09/848,664
 : CURRENT FILING DATE: 2001-05-03
 : PRIOR APPLICATION NUMBER: 09/298,084
 : PRIOR FILING DATE: 1999-04-22
 : NUMBER OF SEQ ID NOS: 31
 : SOFTWARE: PatentIn Ver. 2.1
 : SEQ ID NO 21
 : LENGTH: 72
 : TYPE: PRF
 : ORGANISM: Homo sapiens
 : US-09-848-664-21

Query Match	58.8%	Score 387	DB 10	Length 72
Best Local Similarity	98.6%	Pred. No. 5.1e-38		
Matches 71; Conservative	1;	Mismatches 0;	Indels 0;	Gaps 0

Qy	Db
62	PNPDSGCRGID 73
61	PNPDSGCRGID 72
Qy	Db
2	SSSHPIIHRREEFCVCSVSWWGDKTTATDADIKGKEVWVLGEVNNNSVFQYFEFKCRD 61
1	SSSHPIIHRREEFCVCSVSWWGDKTTATDADIKGKEVWVLGEVNNNSVFQYFEFKCRD 60

RESULT 13
US-09-745-032-6
; Sequence 6, Application US/09745032
; Patent No. US20010027179A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.

```

: APPLICANT: Cheung, Ellen N.
: APPLICANT: Herhenson, Susan I.
: APPLICANT: Young, John D.
: TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
: FILE REFERENCE: A-411a US Revised073100
: CURRENT APPLICATION NUMBER: US/09/745,032
: CURRENT FILING DATE: 2000-12-19
: PRIOR APPLICATION NUMBER: 09/214,214
: PRIOR FILING DATE: 1998-12-23
: PRIOR APPLICATION NUMBER: US 08/684,353
: PRIOR FILING DATE: 1996-07-19
: NUMBER OF SEQ ID NOS: 12
: SOFTWARE: PatentIn Ver. 2.1
: SEQ ID NO: 6
: LENGTH: 119
: TYPE: PRT
: ORGANISM: Human
: US-09-745-032-6

```

	Query Match	Similarity	58.6%	Score	385.5	DB	10	Length	119
	Best Local	Similarity	60.7%	Pred. No.	1.4e-37				
	Matches	68	Conservative	19	Mismatches	24	Indels	1	Gaps
Oy	9	HRGEYSVCDSESVWVGDKTTATDITGKEVMVLGVEVNNINSVPROYEEFKCDPNDPVDG	68						
Db	7	HRGEYSVCDSESLWTDSSALDIGHQVTVGEIKTGNSPVKOYFFERCKEAAVVDNG	66						
Oy	69	CRGIDSKHNNNSCTTHHFVKALTFMD-GKQAAWRFRIIDTACVCLSRRAVR	119						
Db	67	CRGIDDKHNSCKTSQTVYRALTSENNKLGVGRWRIIDTSCVCAISRIGR	118						

RESULT 14
 US-09-742-600-6
 ; Sequence 6, Application US/09742600
 ; Patent No. US20020010135A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Boone, Thomas C.
 ; APPLICANT: Cheung, Ellen N.
 ; APPLICANT: Hershenson, Susan I.
 ; APPLICANT: Young, John D.
 ; TITLE OF INVENTION: ANALOGS OF CATIONIC P
 ; FILE REFERENCE: A-411A US Revised073100
 ; CURRENT APPLICATION NUMBER: US/09/7742,600
 ; CURRENT FILING DATE: 2000-12-19
 ; PRIOR APPLICATION NUMBER: 09/214,214
 ; PRIOR FILING DATE: 1998-12-23
 ; PRIOR APPLICATION NUMBER: US 08/684,353
 ; PRIOR FILING DATE: 1996-07-19
 ; NUMBER OF SEQ ID NOS: 12
 ; SOFTWARE: Patentln Ver. 2.1
 ; SEQ ID NO 6
 ; LENGTH: 119
 ; TYPE: prt
 ; ORGANISM: Human
 ; US-09-742-600-6

[illegible]

RESULT 15
US-09-872-090-6
; Sequence 6, Application US/09872090

```

; Patent No. US2002005248A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen Ngol Yin
; APPLICANT: Hershenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: Analogs of NT-3 (As Amended)
; FILE REFERENCE: A-411B
; CURRENT APPLICATION NUMBER: US/09/872,090
; CURRENT FILING DATE: 2001-06-01
; PRIOR APPLICATION NUMBER: 09/255,953
; PRIOR FILING DATE: 1999-02-23
; PRIOR APPLICATION NUMBER: 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
; LENGTH: 119
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Analog of
; OTHER INFORMATION: human NT-3.
US-09-872-090-6

Query Match      58.6%; Score 385.5; DB 10; Length 119;
Best Local Similarity 60.7%; Pred. No. 1.4e-37;
Matches 68; Conservative 19; Mismatches 24; Indels 1; Gaps 1;

Oy 9 HRGEPSVCDVSVMVGDXTTATDIDKGEVYVIGEVNINNSVFRQYFFETKCRDPNPVDSG 68
    |||||:|||||:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|
Db 7 HRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETETCKEAPVDNG 66
    |||||:|||||:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|

Oy 69 CRGIDSKHNSYCTTHTFEVKALTMW-GKQAMRFIRIDTACVCLSRRAVR 119
    |||||:|||||:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|
Db 67 CRGIDDKHNSOCTSQTYVRALISENNKLVGMWRIRIDTSCVCAISRKRIGR 118
    |||||:|||||:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|

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Search completed: December 2, 2002, 15:14:34
 Job time : 5.25557 secs

XX Beck JT, Burton LE, Schmelzer CH;
 XX WPI: 1998-322333/28.
 DR
 XX Isolation of neurotrophin(s) from, e.g. mls-folded or glycosylated
 PT variant(s) - using hydrophobic interaction chromatography,
 PT optionally in combination with high performance cation exchange
 PT chromatography
 XX
 PS Disclosure: Page 36; 59pp; English.
 XX
 CC This polypeptide comprises mouse nerve growth factor (NGF) mature
 CC polypeptide. Methods are provided for large-scale purification of
 CC neurotrophin, including mature NGF, suitable for clinical use. A
 CC claimed method comprises: (1) separating the neurotrophin from the
 CC other proteins using a hydrophobic interaction chromatography resin
 CC (HICR); and optionally (2) separating the neurotrophin from a
 CC chemical variant by high performance cation exchange chromatography
 CC (HPCEC). The processes can also be used for purification of e.g.
 CC human NGF (see AAM4886), brain-derived neurotrophic factor (see
 CC AAM48888), neurotrophin-4/5 (see AAM48890) and neurotrophin-3 (see
 CC AAM48889). The processes allow separation of neurotrophins from
 CC various undesirable misprocessed, misfolded, size, glycosylated or
 CC charge forms. They allow selective separation from variants and
 CC other molecules, and from other polypeptides with high pI. The
 CC processes are applicable to starting materials from various
 CC sources, including fermentation broths or lysed bacterial or
 CC mammalian cells.
 XX
 SO Sequence 120 AA:

Query Match 98.9%; Score 646; DB 19; Length 120;
 Best Local Similarity 100.0%; Pred. No. 1e-66;
 Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSTRHVFHMGESVCDVSVMWGDKTTATDIDKGEVTVLAEVNINSYFROYFEETKRA 61
 DB 1 SSTRHVFHMGESVCDVSVMWGDKTTATDIDKGEVTVLAEVNINSYFROYFEETKRA 60
 OY 62 SNPVESGCGIDSKHWNSTCTTHTFVKALTTDEKQAAAMRFIRIDTACVLSRRATRG 121
 DB 61 SNPVESGCGIDSKHWNSTCTTHTFVKALTTDEKQAAAMRFIRIDTACVLSRRATRG 120

RESULT 2
 AAP40036
 ID AAP40036 standard; Protein: 307 AA.

XX AAP40036;
 AC
 XX
 DT 25-JAN-1992 (first entry)
 XX
 DE Sequence encoded by the human beta-nerve growth factor (NGF) gene
 DE and flanking regions on phage lambda h-Beta-N8.
 XX
 KM Nerve damage; therapy.
 XX
 OS Homo sapiens.
 XX
 PN EP121338-A.
 PD 10-OCT-1984.
 XX
 PF 02-MAR-1984; 84EP-0301377.
 XX
 PR 03-MAR-1983; 83US-0471962.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PI Gray AM, Ullrich A;
 XX
 DR WPI: 1984-251909/41.

DR N-PSDB: AAM40031.
 XX
 PT Human beta-nerve growth factor free from other proteins - obtd.
 PT by recombinant DNA techniques for treating nerve damage
 XX
 XX Example; Fig 2; 42pp; English.

XX The inventors claim human beta-nerve growth factor (NGF) free from
 CC other proteins of human origin. Also claimed are the DNA sequence
 CC encoding human beta-NGF operably linked with a DNA sequence capable
 CC of effecting its expression in a recombinant host cell; a replicable
 CC expression vector contg. the DNA; and host cells transformed with
 CC the vector. The plasmid claimed is plasmid ph-beta-NGF trp 1. Using
 CC the plasmid, larger amounts of pure beta-NGF are obtainable than by
 CC extn. of natural materials, see e.g. EP-2139.

SO Sequence 307 AA;
 Query Match 98.9%; Score 646; DB 5; Length 307;
 Best Local Similarity 100.0%; Pred. No. 3.5e-66;
 Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSTRHVFHMGESVCDVSVMWGDKTTATDIDKGEVTVLAEVNINSYFROYFEETKRA 61
 DB 188 SSTRHVFHMGESVCDVSVMWGDKTTATDIDKGEVTVLAEVNINSYFROYFEETKRA 247
 OY 62 SNPVESGCGIDSKHWNSTCTTHTFVKALTTDEKQAAAMRFIRIDTACVLSRRATRG 121
 DB 248 SNPVESGCGIDSKHWNSTCTTHTFVKALTTDEKQAAAMRFIRIDTACVLSRRATRG 307

RESULT 3
 AAP40039
 ID AAP40039 standard; Protein: 307 AA.

XX AAP40039;
 AC
 XX
 DT 25-JAN-1992 (first entry)
 XX
 DE Sequence encoded by human prepro-beta-nerve growth factor
 DE (NGF) gene.
 XX
 KM Nerve damage; therapy.
 XX
 OS Homo sapiens.
 XX
 FH Key
 FT Peptide 1..187
 FT Protein /label= signal
 FT 188...307
 XX
 PN EP121338-A.
 PD 10-OCT-1984.
 XX
 PF 02-MAR-1984; 84EP-0301377.
 XX
 PR 03-MAR-1983; 83US-0471962.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PI Gray AM, Ullrich A;
 XX
 DR WPI: 1984-251909/41.
 DR N-PSDB: AAM40034.
 XX
 PT Human beta-nerve growth factor free from other proteins - obtd.
 PT by recombinant DNA techniques for treating nerve damage
 XX
 PS Example; Fig 6; 42pp; English.
 CC The inventors claim human beta-nerve growth factor (NGF) free from
 CC other proteins of human origin. Also claimed are the DNA sequence

CC encoding human beta-NGF operably linked with a DNA sequence capable
CC of effecting its expression in a recombinant host cell; a replicable
CC expression vector congt. the DNA; and host cells transformed with
CC the vector. The plasmid claimed is plasmid ph-beta-NGF trp 1. Using
CC the plasmid, larger amounts of pure beta-NGF are obtainable than by
CC extrn. of natural materials, see e.g. EP-2139.

SO Sequence 307 AA;

Query Match 98.9%; Score 646; DB 5; Length 307;
Best Local Similarity 100.0%; Pred. No. 3.5e-66;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSTRHVFHMGFEFVSVDVSWVGDKTATDICKKEVTLAEVNINNSVFRQYFETKRA 61
DB 188 SSTRHVFHMGFEFVSVDVSWVGDKTATDICKKEVTLAEVNINNSVFRQYFETKRA 247
QY 62 SNPVESSCRGIDSKHMSYCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKKATRRG 121
DB 248 SNPVESSCRGIDSKHMSYCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKKATRRG 307

RESULT 4

AAR45240
ID AAR45240 standard; Protein; 307 AA.

AC AAR45240;

DT 20-JUN-1994 (first entry)

DE Cloned mouse pre-pro nerve growth factor.

KM Mature human; beta-nerve growth factor; mouse; pre-pro portion;
KM expression; NGF; hNGF; treatment; Alzheimer's disease; murine.

OS Mus musculus.

Key Location/Qualifiers

FT Peptide 1..187
FT /note- "signal peptide"
FT Peptide 188..307
FT /note- "mature peptide"

US5272063-A.

21-DEC-1993.

PE 20-JUN-1989; 89US-0383118.

PR 22-NOV-1988; 88US-0274878.

PR 20-JUL-1989; 89US-0383118.

PA (SYNNT) SYNTEX USA INC.

PI Beecker PA, Barnett JW, Bursztyn-Petlegrew H, Chan HM, Nguyen BT;
PI Ward C;

DR WPI; 1993-413401/51.

DR N-PSDB; AAQ54282.

PT Prodn. of active mature human beta-nerve growth factor in insect
PT cells - using baculovirus expression system; and potential use of
PT recombinant hNGF in treatment of Alzheimer's disease

PS Disclosure; Fig 1; 23pp; English.

CC The sequence is that of mouse pre-pro nerve growth factor
CC which was used in a method of producing biologically active
CC mature human beta-nerve growth factor in insect cells.

SO Sequence 307 AA;

Query Match 98.9%; Score 646; DB 14; Length 307;

Best Local Similarity 100.0%; Pred. No. 3.5e-66;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 SSTRHVFHMGFEFVSVDVSWVGDKTATDICKKEVTLAEVNINNSVFRQYFETKRA 61
DB 188 SSTRHVFHMGFEFVSVDVSWVGDKTATDICKKEVTLAEVNINNSVFRQYFETKRA 247
QY 62 SNPVESSCRGIDSKHMSYCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKKATRRG 121
DB 248 SNPVESSCRGIDSKHMSYCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKKATRRG 307

RESULT 5

AAR21868
ID AAR21868 standard; Protein; 120 AA.

AC AAR21868;

DT 10-JUN-1992 (first entry)

DE Chimeric neurotrophic factor S6.

KM Human BDNF; brain derived neurotrophic factor; NGF;
KM neurotrophic growth factor; Alzheimer's disease; aging;
KM peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KM anyotropic lateral sclerosis; nervous system disorders.

OS Homo sapiens.

Key Location/Qualifiers

FT Peptide 1..50
FT /note- "mouse NGF residues 1-50"

FT Peptide 51..58
FT /note- "human BDNF residues 51-58"

FT Peptide 59..120
FT /note- "mouse NGF residues 59-120"

WO9202620-A.

20-FEB-1992.

PE 07-AUG-1991; 91WO-US05610.

PR 08-AUG-1990; 90US-0564929.

PA (REGG-) REGENERON PHARM INC.

PI Shooter EM, Suter U, Ip N, Squinto SP, Furch ME, Lindsay RM;
PI Yancopoulos GD;

DR WPI; 1992-080074/10.

PT New chimeric neurotrophic factors - useful in treating nervous
PT conditions caused by trauma, surgery, ischemia, infection,
PT metabolic diseases, nutritional deficiency, etc.

PS Claim 29; Fig 10; 11app; English.

CC The sequence is that of a chimeric neurotrophic factor (NF) S6 which
CC comprises the mouse neurotrophic growth factor (NGF) residues 1-50,
CC human brain derived growth factor (hBNDF) residues 51-58 and mouse NGF
CC residues 59-120. It may provide the activity of 2 NFs in a single mol.
CC or may serve as a superagonist of an endogenous NF thereby enabling an
CC increased biological response at lower doses. It may also be useful in
CC targeting an active cpd. to cells responsive to NF. The design of
CC chimeric NFs, such as S6, which retain specific biological activity
CC but which are directed to a subset of factor-responsive cells may
CC enable treatment of neurological disorders but avoid the complications
CC of more widespread activity of parent mole. It may be used in the
CC treatment to eliminate diseased cells, e.g. virus infected cells or
CC tumours of nervous system origin. It may also be used to treat patients
CC whose nervous system has been damaged by trauma, surgery, ischemia,
CC infection (e.g. polio or AIDS), metabolic disease, nutritional

	CC	deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's disease, ageing, peripheral neuropathies, Parkinson's disease,
	CC	Huntington's chorea or amyotrophic lateral sclerosis. S6 or antibodies
	CC	to it can also be used in the diagnosis and study of nervous system disorders. See also AAR21851-R21874 and AAQ22080-Q22131.
	CC	
	XX	
SQ	Sequence	120 AA:
Query Match	98.5%	Score 643; DB 13;
Best Local Similarity	99.2%; Pred. No. 2.3e-66;	Length 120;
Matches 113;	Conservative 1;	Mismatches 0;
		Indels 0;
		Gaps
OY	2 SSTHPVEHMGESVCSVSVMVGDKTTATDINGKEVTYLAEVNINNSVFROYEEETKRA	61
	:	
Dd	1 SSTHPVEHMGESVCSVSVMVGDKTATTADIDKGKEVTLYLAENVNINSVFROYEETTKRA	60
OY	62 SNPESCRCRIGDSHHNNSTCTTHTEFVKALLTDDEKAAMRFTRIDPACCVLSRKATRGG	121
	:	
Dd	61 SNPESCRCRGSDSHNNSTCTTHTEFVKALLTDDEKAAMRTFRIDPACCVLSKRATRGG	120

CC	XX		
CC	AC	AAR21873:	
CC	DT	10-JUN-1992	(first entry)
CC	DE	Chimeric neurotrophic factor S11.	
CC	XX		
KW	KM	Human BDNF; brain derived neurotrophic factor; NGF;	
KW	KM	neurotrophic growth factor; Alzheimer's disease; ageing;	
KW	KM	peripheral neuropathies; Parkinson's disease; Huntington's chorea;	
KW	KM	amyotrophic lateral sclerosis; nervous system disorders.	
XX	OS	Homo sapiens.	
XX	FH	Key	Location/Qualifiers
FT	FT	Peptide	1..101
FT	FT	/note= "mouse NGF residues 1-101"	
FT	FT	Peptide	102..110
FT	FT	/note= "human BDNF residues 103-111"	
FT	FT	Peptide	111..120
FT	FT	/note= "mouse NGF residues 111-120"	
XX	PN	W09202620-A.	
XX	PD	20-FEB-1992.	
XX	PE	07-AUG-1991;	91WO-US05610.
XX	PR	08-AUG-1990;	90US-0564929.
XX	PA	(REGG-) REGENERON PHARM INC.	
XX	PI	Shooter EM, Suter U, Ip N, Squinto SP, Furch ME, Lindsay RM;	
XX	PI	Yancopoulos GD;	
DR	XX	WPI: 1992-080074/10.	
PT	XX	New chimeric neurotrophic factors - useful in treating nervous	
PT	XX	conditions caused by trauma, surgery, ischemia, infection,	
PT	XX	metabolic diseases, nutritional deficiency, etc.	
XX	XX	Claim 34; Fig 10; 114pp; English.	
XX	PS		
CC	CC	The sequence is that of a chimeric neurotrophic factor (NF) S11 which	
CC	CC	comprises the mouse neurotrophic growth factor (NGF) residues 1-101,	
CC	CC	human brain derived growth factor (hBNDF) residues 103-111 and mouse NGF	
CC	CC	residues 111-120. It may provide the activity of 2 NFs in a single mol.	
CC	CC	or may serve as a superagonist of an endogenous NF thereby enabling an	
CC	CC	increased biological response at lower doses. It may also be useful in	

CC targeting nan active cpd. To cells responsive to NF. The design of
CC chimeric Nfs, such as S1L which retain specific biological activity
CC but which are directed to a subset of factor-responsive cells may
CC enable treatment of neurological disorders but avoid the complications
of more widespread activity of parent mols. It may be used in the
CC treatment to eliminate diseased cells, e.g. virus infected cells or
tumours of nervous system origin. It may also be used to treat patients
CC whose nervous system has been damaged by trauma, surgery, ischemia,
infection (e.g. polio or AIDS), metabolic disease, nutritional
CC deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
disease, ageing, peripheral neuropathies, Parkinson's disease,
Huntington's chorea or amyotrophic lateral sclerosis. S1L or antibodies
CC to it can also be used in the diagnosis and study of nervous system
disorders. See also AAR21851-R21874 and AAQ2080-022131.

XX

SQ	Sequence	120 AA:
	Query Match	98.5%; Score 643; DB 13;
	Best Local Similarity	99.28% ; Pred. NO. 2.3e+66;
	Matches 119; Conservative	1; Mismatches 0; Indels 0; Gaps 0;

Qy	2	SSTHPVFHMGEEVSCDSSVWVGDKTTATDINGKAEVTVLAEVNNNSVFKEIFELNCA	60
Dd	1	SSTHPVFHMGEEVSCDSSVWVGDKTTATDINGKAEVTVLAEVNNNSVFROYPEETCGRA	60
Qy	62	SNPVESGGRCIDSKHMNNSYCTTHTFPAKLTDDKOAAMRFIRIDTACVLSKRAIRG	120
Dd	61	SNPVESGGRCIDSKHMNNSYCTTHTFPAKLTDDKOAAMRFIRIDTACVLSKRAIRG	120
RESULT 7			
ID	AA050845	AA050845 standard; Protein; 240 AA.	
XX	AA050845;		
AC			
XX	01-MAY-2002 (first entry)		
D7			
XX	Mouse nerve growth factor.		
DE			
XX	Beta-nerve growth factor; NGF; mouse; neurotrophic factor; NTF;		
KW	Huntington's disease; Parkinson's disease; Alzheimer's disease;		
KW	amyotrophic lateral sclerosis; neurodegenerative disease; cancer;		
KW	neuroprotective; neuropathic; anticonvulsant; antiparkinsonian;		
XX	cyostatic; therapy.		
XX			
OS	Mus musculus.		
XX			
FH	Key	Location/Qualifiers	
FT	Peptide	1..18	
FT		/label= signal_peptide	
FT	Peptide	19..121	
FT		/label= Propeptide	
FT	Protein	122..240	
FT		/label= Mature_protein	
FT	Disulfide-bond	136..201	
FT	Disulfide-bond	179..229	
FT	Disulfide-bond	189..231	
FT	Modified-site	69	
FT		/note= "N-glycosylated"	
FT	Modified-site	114	
FT		/note= "N-glycosylated"	
FT	Misc-difference	233..240	
FT		/note= "conflict, replaced by CSAGRIQEA"	
XX			
PN	WO200203071-A2.		
XX			
PD	10-JAN-2002.		
XX			
PF	05-JUL-2001; 2001WO-US21472.		
XX			
PR	05-JUL-2000; 2000US-215778P.		
XX			

PA (PANG-) PANGENE CORP.
XX
PI Bates AT:
XX
DR WPI: 2002-179638/23.
XX
PT Screening for a neurotrophic factor mimetic, useful for treating, e.g.,
PT cancer and Alzheimer's, comprises combining a candidate mimetic with a
PT fragment of a tyrosine kinase protein -
XX
PS Disclosure; Fig 5; 107pp; English.
XX
CC The present sequence is that of murine beta-nerve growth factor
CC (NGF), a neurotrophic factor (NTF) that binds to TrkA receptor
CC tyrosine kinase. The invention concerns Trks and their ligands
CC that modulate cell growth, differentiation and survival. Trk
CC proteins are known to mediate the activities of neurotrophins and
CC are also known proto-oncogenes. Methods are claimed for screening
CC for small molecule NTF mimetics, such as the cyclic peptide given
CC in AA050844, capable of binding to a Trk protein or of modulating
CC the binding of a neurotrophin to a Trk protein. Also claimed are
CC medicaments comprising a small molecule NTF mimetic and their use
CC in claimed methods for treatment of cancer or a neurodegenerative
CC disease selected from Huntington's disease, Parkinson's disease,
CC Alzheimer's disease and amyotrophic lateral sclerosis.
XX
SQ Sequence 240 AA:

Query Match 98.0%; Score 640; DB 23; Length 240;
Best Local Similarity 100.0%; Pred. No. 1.3e-65;
Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSTRPVFMGEFSCDSVSWVGDKTTATDIDKGEVYLAEVNINNSVFRQYFETKRA 61
DB 122 SSTRPVFMGEFSCDSVSWVGDKTTATDIDKGEVYLAEVNINNSVFRQYFETKRA 181
OY 62 SNPVESGCRGIDSKHMNSYCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRR 120
DB 182 SNPVESGCRGIDSKHMNSYCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRR 240

RESULT 8
AAR21862
ID AAR21862 standard; Protein; 132 AA.
XX
AC AAR21862:
XX
DT 10-JUN-1992 (first entry)
XX
DE Chimeric neurotrophic factor NM1.
XX
KM Human BDNF; brain derived neurotrophic factor; NGF;
KM neurotrophic growth factor; Alzheimer's disease; ageing;
KM peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KM amyotrophic lateral sclerosis; nervous system disorders.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Peptide 1..4
FT Peptide /note- "mouse NGF preprosequence"
FT Peptide 5..122
FT Peptide /note- "mouse NGF residues 1-118"
FT Peptide 123..132
FT Peptide /note- "10 amino acid antigenic peptide fragment
FT of human myc protein"
XX
PN WO9202620-A.
XX
PD 20-FEB-1992.
XX
PF 07-AUG-1991; 91WO-US05610.
XX

PR 08-AUG-1990; 90US-0564929.
XX
PA (REG-) REGENERON PHARM INC.
XX
PI Shooter EM, Suter U, Ip N, Squinto SP, Furch ME, Lindsay RM;
PI Yancopoulos GD;
XX
DR WPI: 1992-080074/10.
XX
XX New chimeric neurotrophic factors - useful in treating nervous
PT conditions caused by trauma, surgery, ischemia, infection,
PT metabolic diseases, nutritional deficiency, etc.
XX
PS Claim 46; Fig 5; 114pp; English.
XX
CC The sequence is that of a chimeric neurotrophic factor (NF) NM1 which
CC comprises the preprosequence of mouse neurotrophic growth factor (NGF),
CC residues 1-118 of mouse NGF and a 10 amino acid antigenic peptide
CC fragment of human myc protein. It may provide the activity of 2 NFs
CC in a single mol. or may serve as a superagonist of an endogenous NF
CC thereby enabling an increased biological response at lower doses. It
CC may also be useful in targeting an active cpd. to cells responsive to
CC NF. The design of chimeric NFs, such as NM1, which retain specific
CC biological activity but which are directed to a subset of factor-
CC responsive cells may enable treatment of neurological disorders but
CC avoid the complications of more widespread activity of parent mols.
CC It may be used in the treatment to eliminate diseased cells, e.g.
CC virus infected cells or tumours of nervous system origin. It may also
CC be used to treat patients whose nervous system has been damaged by
CC trauma, surgery, ischemia, infection (e.g. polio or AIDS), metabolic
CC disease, nutritional deficiency, malignancy or toxic agents. Also to
CC treat e.g. Alzheimer's disease, ageing, peripheral neuropathies,
CC Parkinson's disease, Huntington's chorea or amyotrophic lateral
CC sclerosis. NM1 or antibodies to it can also be used in the diagnosis
CC and study of nervous system disorders. See also AAR21851-R21874 and
CC AA022080-Q022131.
XX
SQ Sequence 132 AA;

Query Match 97.9%; Score 639; DB 13; Length 132;
Best Local Similarity 99.2%; Pred. No. 7.5e-60;
Matches 119; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 2 SSTRPVFMGEFSCDSVSWVGDKTTATDIDKGEVYLAEVNINNSVFRQYFETKRA 61
DB 5 SSTRPVFMGEFSCDSVSWVGDKTTATDIDKGEVYLAEVNINNSVFRQYFETKRA 64
OY 62 SNPVESGCRGIDSKHMNSYCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRR 121
DB 65 SNPVESGCRGIDSKHMNSYCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRR 124

RESULT 9
AAR29493
ID AAR29493 standard; Protein; 118 AA.
XX
AC AAR29493:
XX
DT 22-APR-1993 (first entry)
XX
DE NGF, mouse.
XX
KM Neurotrophin: NT; nerve growth factor; NGF;
KM brain-derived neurotrophic factor; BDNF.
XX
OS Mus musculus.
XX
PN WO9220365-A.
XX
PD 26-NOV-1992.
XX
PF 20-MAY-1992; 92WO-US04266.
XX

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PR 21-MAY-1991; 91US-0703450.
PR 12-JUL-1991; 91US-0729253.
PR 23-JUL-1991; 91US-0734422.
PR 28-AUG-1991; 91US-0751356.
PR 20-SEP-1991; 91US-0762674.
PR 14-NOV-1991; 91US-0791924.
XX (REGF-) REGENERON PHARM INC.
XX
XX Hallbook F, Ibanez Moliner CF, Persson HB, Yancopoulos GD;
PI WPI: 1992-415468/50.
XX
XX WPI: 1992-415468/50.
XX
XX Use of neurotrophin-4 for promoting growth and survival of nerve
PT cells - useful in treating neurological, fertility and
PT immunological disorders and in diagnosis
XX
XX Disclosure; Page 105-106 + Fig 4B; 180pp; English.
XX
XX A comparison of the mature NT-4 protein (Xenopus) to the mature
CC NGF, BDNF, and NT-3 proteins from mouse revealed 51%, 60% and 58%
CC amino acid identity respectively. See sequences AAR29491 and
CC AAR29493-95.
XX
XX Sequence 118 AA:
SQ
Query Match 97.2%; Score 635; DB 13; Length 118;
Best Local Similarity 100.0%; Pred. No. 1.9e-65;
Matches 118; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 2 SSTRPVFMHGFESVCDSSVWVGDKTTATDIDGKEVTYLAEVNINNSVPROFFETKCA 61
DB 1 SSTRHVFHMGESVCDSSVWVGDKTTATDIDGKEVTYLAEVNINNSVPROFFETKCA 60
OY 62 SNPVESGCGIDSKHMNSCTTHTFVKALTTDEKQAAARFTRIDACVCSRRATRG 119
DB 61 SNPVESGCGIDSKHMNSCTTHTFVKALTTDEKQAAARFTRIDACVCSRRATRG 118
RESULT 10
AAR21864
ID AAR21864 standard; Protein: 120 AA.
XX
XX AAR21864;
AC
XX
XX 10-JUN-1992 (first entry)
DE Chimeric neurotrophic factor S2.
XX
XX Human BDNF; brain derived neurotrophic factor; NGF;
KW neurotrophic growth factor; Alzheimer's disease; ageing;
KW peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KW amyotrophic lateral sclerosis; nervous system disorders.
XX
XX Homo sapiens.
OS
XX
XX Key Location/Qualifiers
FH 1..9
FT /note= "mouse NGF residues 1-9"
FT Peptide 10..22 "human BDNF residues 8-20"
FT /note= "human BDNF residues 8-20"
FT Peptide 23..120
FT /note= "mouse NGF residues 23-120"
XX
XX W09202620-A.
XX
XX 20-FEB-1992.
XX
XX 07-AUG-1991; 91WO-US05610.
XX
XX 08-AUG-1990; 90US-0564929.
XX
XX (REGF-) REGENERON PHARM INC.
XX
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XX
XX Shooter EM, Suter U, Ip N, Squinto SP, Furch ME, Lindsay RM;
PI Yancopoulos GD;
PI WPI: 1992-080074/10.
XX
XX WPI: 1992-080074/10.
XX
XX New chimeric neurotrophic factors - useful in treating nervous
PT conditions caused by trauma, surgery, ischemia, infection,
PT metabolic diseases, nutritional deficiency, etc.
XX
XX Claim 25; Fig 10; 114pp; English.
XX
XX The sequence is that of a chimeric neurotrophic factor (NF) S2 which
CC comprises the mouse neurotrophic growth factor (NGF) residues 1-9,
CC human brain derived growth factor (hBNGF) residues 8-20 and mouse NGF
CC residues 23-120. It may provide the activity of 2 NFs in a single mol.
CC or may serve as a superagonist of an endogenous NF thereby enabling an
CC increased biological response at lower doses. It may also be useful in
CC targeting an active cpd. to cells responsive to NF. The design of
CC chimeric NFs, such as S2, which retain specific biological activity
CC but which are directed to a subset of factor-responsive cells may
CC enable treatment of neurological disorders but avoid the complications
CC of more widespread activity of parent mols. It may be used in the
CC treatment to eliminate diseased cells, e.g. virus infected cells or
CC tumours of nervous system origin. It may also be used to treat patients
CC whose nervous system has been damaged by trauma, surgery, ischemia,
CC infection (e.g. polio or AIDS), metabolic disease, nutritional
CC deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
CC disease, ageing, peripheral neuropathies, Parkinson's disease,
CC Huntington's chorea or amyotrophic lateral sclerosis. S2 or antibodies
CC to it can also be used in the diagnosis and study of nervous system
CC disorders. See also AAR21851-R21874 and AAQ22080-022131.
XX
XX Sequence 120 AA:
SQ
Query Match 96.9%; Score 633; DB 13; Length 120;
Best Local Similarity 97.5%; Pred. No. 3.3e-65;
Matches 117; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
OY 2 SSTRPVFMHGFESVCDSSVWVGDKTTATDIDGKEVTYLAEVNINNSVPROFFETKCA 61
DB 1 SSTRHVFHMGESVCDSSISEWVGDKTTATDIDGKEVTYLAEVNINNSVPROFFETKCA 60
OY 62 SNPVESGCGIDSKHMNSCTTHTFVKALTTDEKQAAARFTRIDACVCSRRATRG 121
DB 61 SNPVESGCGIDSKHMNSCTTHTFVKALTTDEKQAAARFTRIDACVCSRRATRG 120
RESULT 11
AAR21870
ID AAR21870 standard; Protein: 120 AA.
XX
XX AAR21870;
AC
XX
XX 10-JUN-1992 (first entry)
DE Chimeric neurotrophic factor S8.
XX
XX Human BDNF; brain derived neurotrophic factor; NGF;
KW neurotrophic growth factor; Alzheimer's disease; ageing;
KW peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KW amyotrophic lateral sclerosis; nervous system disorders.
XX
XX Homo sapiens.
OS
XX
XX Key Location/Qualifiers
FH 1..68
FT /note= "mouse NGF residues 1-68"
FT Peptide 69..80
FT /note= "human BDNF residues 69-80"
FT Peptide 81..120
FT /note= "mouse NGF residues 81-120"
XX
XX
```


PN W09202620-A.
 XX
 PD 20-FEB-1992.
 XX
 PF 07-AUG-1991; 91WO-US05610.
 XX
 PR 08-AUG-1990; 90US-0564929.
 XX
 PA (REG-) REGENERON PHARM INC.
 XX
 PI Shooter EM, Suter U, Ip N, Squinto SP, Furth ME, Lindsay RM;
 PI Yancopoulos GD;
 XX
 DR WPI: 1992-080074/10.
 XX
 PT New chimeric neurotrophic factors - useful in treating nervous
 PT conditions caused by trauma, surgery, ischemia, infection,
 PT metabolic diseases, nutritional deficiency, etc.
 XX
 PS Claim 31; Fig 10; 11app; English.
 XX
 CC The sequence is that of a chimeric neurotrophic factor (NF) S8 which
 CC comprises the mouse neurotrophic growth factor (NGF) residues 1-68,
 CC human brain derived growth factor (hBDNF) residues 69-80 and mouse NGF
 CC residues 81-120. It may provide the activity of 2 NFs in a single mol.
 CC or may serve as a superagonist of an endogenous NF thereby enabling an
 CC increased biological response at lower doses. It may also be useful in
 CC targeting an active cpd. to cells responsive to NF. The design of
 CC chimeric NFs, such as S8, which retain specific biological activity
 CC but which are directed to a subset of factor-responsive cells may
 CC enable treatment of neurological disorders but avoid the complications
 CC of more widespread activity of parent mols. It may be used in the
 CC treatment to eliminate diseased cells, e.g. virus infected cells or
 CC tumours of nervous system origin. It may also be used to treat patients
 CC whose nervous system has been damaged by trauma, surgery, ischemia,
 CC infection (e.g. polio or AIDS), metabolic disease, nutritional
 CC deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
 CC disease, ageing, peripheral neuropathies, Parkinson's disease,
 CC Huntington's chorea or amyotrophic lateral sclerosis. S8 or antbodies
 CC to it can also be used in the diagnosis and study of nervous system
 CC disorders. See also AAR21851-R21874 and AAQ22080-Q22131.
 CC
 XX
 SQ Sequence 120 AA;
 Query Match 96.6%; Score 631; DB 13; Length 120;
 Best Local Similarity 97.5%; Pred. No. 5.6e-65;
 Matches 117; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 OY 2 SSTRPVFMGEFVSVCDSVSWVGDKTTATDICKGEVTVLAEVNINNSVFRQYFEETKRA 61
 DB 1 SSTRPVFMGEFVSVCDSVSWVGDKTTATDICKGEVTVLAEVNINNSVFRQYFEETKRA 60
 OY 62 SNPEVSGCRGIDSKHMSYCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKKATRRG 121
 DB 61 SNPEVSGCRGIDSKHMSYCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKKATRRG 120
 RESULT 12
 AAR21866
 ID AAR21866 standard; Protein; 120 AA.
 XX
 AC AAR21866;
 XX
 DT 10-JUN-1992 (first entry)
 XX
 DE Chimeric neurotrophic factor S4.
 XX
 KM Human BDNF: brain derived neurotrophic factor; NGF;
 KM neurotrophic growth factor; Alzheimer's disease; ageing;
 KM peripheral neuropathies; Parkinson's disease; Huntington's chorea;
 KM amyotrophic lateral sclerosis; nervous system disorders.
 XX
 OS Homo sapiens.

XX
 FH Key Location/Qualifiers
 FT Peptide 1..33 /note- "mouse NGF residues 1-33"
 FT Peptide /note- "mouse NGF residues 34-42"
 FT Peptide /note- "human BDNF residues 34-42"
 FT Peptide 43..120 /note- "mouse NGF residues 43-120"
 XX
 PN W09202620-A.
 XX
 PD 20-FEB-1992.
 XX
 PF 07-AUG-1991; 91WO-US05610.
 XX
 PR 08-AUG-1990; 90US-0564929.
 XX
 PA (REG-) REGENERON PHARM INC.
 XX
 PI Shooter EM, Suter U, Ip N, Squinto SP, Furth ME, Lindsay RM;
 PI Yancopoulos GD;
 XX
 DR WPI: 1992-080074/10.
 XX
 PT New chimeric neurotrophic factors - useful in treating nervous
 PT conditions caused by trauma, surgery, ischemia, infection,
 PT metabolic diseases, nutritional deficiency, etc.
 XX
 PS Claim 27; Fig 10; 11app; English.
 XX
 CC The sequence is that of a chimeric neurotrophic factor (NF) S4 which
 CC comprises the mouse neurotrophic growth factor (NGF) residues 1-33,
 CC human brain derived growth factor (hBDNF) residues 34-42 and mouse NGF
 CC residues 43-120. It may provide the activity of 2 NFs in a single mol.
 CC or may serve as a superagonist of an endogenous NF thereby enabling an
 CC increased biological response at lower doses. It may also be useful in
 CC targeting an active cpd. to cells responsive to NF. The design of
 CC chimeric NFs, such as S4, which retain specific biological activity
 CC but which are directed to a subset of factor-responsive cells may
 CC enable treatment of neurological disorders but avoid the complications
 CC of more widespread activity of parent mols. It may be used in the
 CC treatment to eliminate diseased cells, e.g. virus infected cells or
 CC tumours of nervous system origin. It may also be used to treat patients
 CC whose nervous system has been damaged by trauma, surgery, ischemia,
 CC infection (e.g. polio or AIDS), metabolic disease, nutritional
 CC deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
 CC disease, ageing, peripheral neuropathies, Parkinson's disease,
 CC Huntington's chorea or amyotrophic lateral sclerosis. S4 or antbodies
 CC to it can also be used in the diagnosis and study of nervous system
 CC disorders. See also AAR21851-R21874 and AAQ22080-Q22131.
 CC
 XX
 SQ Sequence 120 AA;
 Query Match 95.6%; Score 624; DB 13; Length 120;
 Best Local Similarity 96.7%; Pred. No. 3.6e-64;
 Matches 116; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 OY 2 SSTRPVFMGEFVSVCDSVSWVGDKTTATDICKGEVTVLAEVNINNSVFRQYFEETKRA 61
 DB 1 SSTRPVFMGEFVSVCDSVSWVGDKTTATDICKGEVTVLAEVNINNSVFRQYFEETKRA 60
 OY 62 SNPEVSGCRGIDSKHMSYCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKKATRRG 121
 DB 61 SNPEVSGCRGIDSKHMSYCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKKATRRG 120
 RESULT 13
 AAR21871
 ID AAR21871 standard; Protein; 120 AA.
 XX
 AC AAR21871;
 XX
 DT 10-JUN-1992 (first entry)

DE	XX	Chimeric neurotrophic factor S9.
KW	XX	Human BDNF; brain derived neurotrophic factor; NGF;
KM	XX	neurotrophic growth factor; Alzheimer's disease; ageing;
KW	XX	peripheral neuropathies; Parkinson's disease; Huntington's chorea;
KM	XX	amyotrophic lateral sclerosis; nervous system disorders.
OS	XX	Homo sapiens.
FH	XX	Key Location/Qualifiers
FT	XX	Peptide 1..80
FT	XX	/note- "mouse NGF residues 1-80"
FT	XX	Peptide 81..91
FT	XX	/note- "human BDNF residues 81-91"
FT	XX	Peptide 92..120
FT	XX	/note- "mouse NGF residues 92-120"
XX	XX	
PN	XX	M09202620-A.
PD	XX	20-FEB-1992.
PE	XX	07-AUG-1991; 91MO-US05610.
PF	XX	08-AUG-1990; 90US-0564929.
PR	XX	(REGG-) REGENERON PHARM INC.
PI	XX	Shooter EW, Suter U, Ip N, Squinto SP, Furth ME, Lindsay RW;
PI	XX	Yancopoulos GD;
PS	XX	WPI: 1992-080074/10.
PT	XX	New chimeric neurotrophic factors - useful in treating nervous
PT	XX	conditions caused by trauma, surgery, ischemia, infection,
PT	XX	metabolic diseases, nutritional deficiency, etc.
PS	XX	Claim 32: Fig 10: 114pp: English.
XX	XX	The sequence is that of a chimeric neurotrophic factor (NF) S9 which
CC	XX	comprises the mouse neurotrophic growth factor (NGF) residues 1-80,
CC	XX	human brain derived growth factor (hbNDF) residues 81-91 and mouse NGF
CC	XX	residues 92-120. It may provide the activity of 2 NFs in a single mol.
CC	XX	or may serve as a superagonist of an endogenous NF thereby enabling an
CC	XX	increased biological response at lower doses. It may also be useful in
CC	XX	targeting an active cpl. to cells responsive to NF. The design of
CC	XX	chimeric NFs, such as S9, which retain specific biological activity
CC	XX	but which are directed to a subset of factor-responsive cells may
CC	XX	enable treatment of neurological disorders but avoid the complications
CC	XX	of more widespread activity of parent mols. It may be used in the
CC	XX	treatment to eliminate diseased cells, e.g. virus infected cells or
CC	XX	tumours of nervous system origin. It may also be used to treat patients
CC	XX	whose nervous system has been damaged by trauma, surgery, ischemia,
CC	XX	infection (e.g. polio or AIDS), metabolic disease, nutritional
CC	XX	deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
CC	XX	disease, ageing, peripheral neuropathies, Parkinson's disease,
CC	XX	Huntington's chorea or amyotrophic lateral sclerosis. S9 or antibodies
CC	XX	to it can also be used in the diagnosis and study of nervous system
CC	XX	disorders. See also AAR21851-R21874 and AAQ22080-Q22131.
SQ	XX	Sequence 120 AA:
Query Match	95.3%;	Score 622; DB 13; Length 120;
Best Local Similarity	95.8%;	Pred. No. 6, le-64;
Matches 115;	Conservative 3;	Mismatches 2; Indels 0; Gaps 0
DB	1	SSTHPVFHGEESVCDSSVMWGDKTTATDIDKGEVTALAEVINNSVRFQFFETKRA 61
OY	2	SSTHPVFHGEESVCDSSVMWGDKTTATDIDKGEVTALAEVINNSVRFQFFETKRA 61
DB	1	SSTHPVFHGEESVCDSSVMWGDKTTATDIDKGEVTALAEVINNSVRFQFFETKRA 60
OY	62	SNPVSGGCGIDSKHNNSCTTHTFPVKALTIDDEKAARFRIRDPACVCYLRRKTRRG 121
DB	61	SNPVSGGCGIDSKHNNSCTTHTFPVKALTIDDEKAARFRIRDPACVCYLRRKTRRG 120

RESULT 14	
AAAR54084	
ID	AAAR54084 standard; protein; 120 AA.
XX	
AC	AAAR54084;
XX	
DT	10-NOV-1994 (first entry)
XX	
DE	Nerve growth factor.
XX	
KW	Nerve growth factor; NGF; chimeric neurotrophin; neurotrophic factor;
KW	brain-derived neurotrophic factor; BDNF; neurotrophin-3; NF-3;
KW	TrkB; TrkB; TrC; receptor; neurological disorder;
KW	Parkinson disease; Alzheimer disease.
XX	
OS	Rattus sp.
XX	
PN	MO9412539-A.
XX	
PD	09-JUN-1994.
XX	
PF	19-NOV-1993; 93MO-US11292.
XX	
PR	20-NOV-1992; 92US-0979630.
XX	
PA	(MCIN/) MCINTYRE K R.
XX	
PI	Ibanez CFM, Persson HB;
XX	
DR	WPI: 1994-200202/24.
XX	
PT	New chimeric neurotrophic factors and DNA - used to develop
PT	prods. for use in the treatment and diagnosis of neurological
PT	disorders
XX	
PS	Disclosure; Page 48-49; 79pp; English.
XX	
CC	Sequences are provided for rat nerve growth factor (AAAR54084), rat
CC	brain-derived neurotrophic factor (AAAR54085) and rat neurotrophin-3
CC	(AAAR54086). Chimeric neurotrophins capable of binding TrkA, TrkB and
CC	TrC are obtained by substituting amino acids 3-9, 28-37, 40-49,
CC	61-66, 81-88, 94-98 or 95-97 of a neurotrophin with corresponding
CC	amino acids from NGF, BDNF or NT-3. Recombinant chimeric
CC	neurotrophins are used to treat e.g. Alzheimer disease and
CC	Parkinson disease.
XX	
SO	Sequence 120 AA;
XX	
Query Match	94.6%; Score 618; DB 15; Length 120;
Best Local Similarity	94.2%; Pred. No. 1.8e-63;
Matches 113; Conservative	4; Mismatches 3; Indels 0; Gaps
0.	
QY	2 STHPEVFHNGEFSVCDSSVWVGDKTTATDIDGKEVTYLAENVINNSVROFFEFKCR 61
DB	1 STHPEVFHNGEFSVCDSSVWVGDKTTATDIDGKEVTYLAENVINNSVROFFEFKCR 60
QY	62 SNPVESGCGIDSKHMSNYCTTHFFVKALTTDEKQAAAFRIRIDPACVLSRKATRRG 121
DB	61 PNPVESGCGIDSKHMSNYCTTHFFVKALTTDDKQAAAFRIRIDPACVLSRKATRRG 120
RESULT 15	
AAAR21872	
ID	AAAR21872 standard; Protein; 121 AA.
XX	
AC	AAAR21872;
XX	
DT	10-JUN-1992 (first entry)
XX	
DE	Chimeric neurotrophic factor S10.
XX	

KM Human BDNF; brain derived neurotrophic factor; NGF;
 KM neurotrophic growth factor; Alzheimer's disease; aging;
 KM peripheral neuropathies; Parkinson's disease; Huntington's chorea;
 KM amyotrophic lateral sclerosis; nervous system disorders.
 OS Homo sapiens.

Key Location/Qualifiers
 FT Peptide 1..91 /note="mouse NGF residues 1-91"
 FT Peptide 92..102 /note="human BDNF residues 92-102"
 FT Peptide 103..121 /note="mouse NGF residues 102-120"

PN MO9202620-A.
 PD 20-FEB-1992.
 PF 07-AUG-1991; 91MO-US05610.
 PR 08-AUG-1990; 90US-0564929.
 PA (REG-) REGENERON PHARM INC.
 PI Shooter EM, Suter U, Ip N, Squinto SP, Furth ME, Lindsay RM;
 PI Yancopoulos GD;
 DR WPI; 1992-080074/10.

PT New chimeric neurotrophic factors - useful in treating nervous
 PT conditions caused by trauma, surgery, ischemia, infection,
 PT metabolic diseases, nutritional deficiency, etc.

PS Claim 33; Fig 10; 114pp; English.

CC The sequence is that of a chimeric neurotrophic factor (NF) S10 which
 CC comprises the mouse neurotrophic growth factor (NGF) residues 1-91,
 CC human brain derived growth factor (hBDNF) residues 92-102 and mouse NGF
 CC residues 102-120. It may provide the activity of 2 NFs in a single mol.
 CC or may serve as a superagonist of an endogenous NF thereby enabling an
 CC increased biological response at lower doses. It may also be useful in
 CC targeting an active cpd. to cells responsive to NF. The design of
 CC chimeric NFs, such as S10, which retain specific biological activity
 CC but which are directed to a subset of factor-responsive cells may
 CC enable treatment of neurological disorders but avoid the complications
 CC of more widespread activity of parent mols. It may be used in the
 CC treatment to eliminate diseased cells, e.g. Virus infected cells or
 CC tumours of nervous system origin. It may also be used to treat patients
 CC whose nervous system has been damaged by trauma, surgery, ischemia,
 CC infection (e.g. polio or AIDS), metabolic disease, nutritional
 CC deficiency, malignancy or toxic agents. Also to treat e.g. Alzheimer's
 CC disease, aging, peripheral neuropathies, Parkinson's disease,
 CC Huntington's chorea or amyotrophic lateral sclerosis. S10 or antibodies
 CC to it can also be used in the diagnosis and study of nervous system
 CC disorders. See also AAR21851-R21874 and AAQ22080-Q22131.

XX Sequence 121 AA;

Query Match 93.6%; Score 611.5; DB 13; Length 121;
 Best Local Similarity 95.0%; Pred. No. 1e-62;
 Matches 115; Conservative 1; Mismatches 4; Indels 1; Gaps 1;

OY 2 SSTRHVFHMGSEFVSVDVSVWVGDKTTATDICKREVTVLAEVNINNSVFRQYFETKRA 61
 DB 1 SSTRHVFHMGSEFVSVDVSVWVGDKTTATDICKREVTVLAEVNINNSVFRQYFETKRA 60
 OY 62 SNPESSCGRIDSKHMSYCTTHTFVKALTD-EKQANRFIRIDPACVLSRKATRR 120
 DB 61 SNPESSCGRIDSKHMSYCTTHTFVKALTMDSRKRIGRFIRIDPACVLSRKATRR 120
 OY 121 G 121

DB 121 G 121
 Search completed: December 2, 2002, 15:08:38
 Job time : 25.1149 secs

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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 : Search time 9.64596 Seconds
(without alignments)
1205.921 Million cell updates/sec

Title: US-10-072-681-3

Perfect score: 653

Sequence: 1 PSTHPVFHMGFEFVCDVS.....FIRIDACVLSKRRTRRG 121

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :

1: PIR1:*
2: PIR2:*
3: PIR3:*
4: PIR4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	646	98.9	307	1	NGMSMG
2	626	95.9	245	1	NGMSMG
3	606	92.8	303	1	NGRTBA
4	593	90.8	241	2	JL0097
5	584	89.4	286	1	NGHUBM
6	583	89.3	229	2	I46614
7	571	87.4	125	2	A26312
8	566	83.6	243	2	A26311
9	532	81.5	235	2	S14481
10	475	72.7	117	2	S28161
11	471	72.1	243	2	I51193
12	436.5	66.8	116	1	NGNXXI
13	432.5	66.2	116	2	A58566
14	432.5	66.2	246	2	A59218
15	390	59.7	194	2	I51709
16	378.5	58.0	257	2	C40304
17	378.5	58.0	257	2	I50400
18	378.5	58.0	258	2	S09155
19	378.5	58.0	282	2	A35781
20	347.5	53.2	286	2	S50855
21	325.5	49.8	247	2	A40304
22	325.5	49.8	249	2	S12555
23	325.5	49.8	249	2	B40304
24	325.5	49.8	252	2	A30361
25	320.5	49.1	114	2	I84765
26	319.5	48.9	148	2	UC6183
27	313.5	48.0	114	2	I50606
28	312.5	47.9	210	2	A42687
29	311.5	47.7	269	2	I51708

30	310.5	47.5	236	2	JH0400	neurotrophin-4 pre
31	307.5	47.1	209	2	B42687	neurotrophin-4 pre
32	304.5	46.6	114	2	I51599	brain-derived neur
33	81	12.4	229	2	C69806	hypothetical prote
34	79.5	12.2	475	2	T23355	hypothetical prote
35	76	11.6	478	2	D96603	probable phosphog
36	74.5	11.4	116	2	S50449	hypothetical prote
37	74.5	11.4	425	2	S26623	phosphoglycerate k
38	73.5	11.3	499	2	S53637	protein kinase CLK
39	73.5	11.3	693	2	T26415	hypothetical prote
40	72	11.0	399	2	T71368	phosphoglycerate k
41	71.5	10.9	835	2	C97322	probable alpha-ara
42	71	10.9	166	2	S55496	fibrillar protein p
43	71	10.9	331	1	A54932	zeta-crystallin /
44	70.5	10.8	290	2	I519426	hypothetical prote
45	69	10.6	3083	2	AH2493	hypothetical prote

ALIGNMENTS

RESULT 1
NGMSMG
nerve growth factor beta chain precursor - mouse
C:Species: Mus musculus (house mouse)
C>Date: 30-Nov-1980 #sequence_revision 19-Feb-1984 #text_change 21-Jul-2000
C:Accession: A93301; A93305; A93365; I49689; I52891; A01400; I49690
R:Scott, J.; Selby, M.; Urded, M.; Quiroga, M.; Bell, G.I.; Rutter, W.J.
Nature 302, 538-540, 1983
A>Title: Isolation and nucleotide sequence of a cDNA encoding the precursor of mouse A:Reference number: A93301; MUID:83167518; PMID:6536309
A:Accession: A93301
A:Molecule type: mRNA
A:Residues: 1-307 <SC0>
A:Cross-references: GB:V00836; NID:953364; PIDN:CAA24221.1; PID:953365
R:Ulrich, A.; Gray, A.; Berman, C.; Dull, T.J.
Nature 309, 821-825, 1983
A>Title: Human beta-nerve growth factor gene sequence highly homologous to that of mo A:Reference number: A93305; MUID:83244969; PMID:6688123
A:Accession: A93305
A:Molecule type: mRNA
A:Residues: 1-307
A:Cross-references: GB:K01759; NID:9200051; PIDN:AAA39820.1; PID:9387495
A>Note: these authors believe that Met-67 is probably the amino-terminal residue and R:Angelletti, R.H.; Hermanson, M.A.; Bradshaw, R.A.
Biochemistry 12, 100-115, 1973
A>Title: Amino acid sequences of mouse 2.5S nerve growth factor. II. Isolation and ch A:Reference number: A90366; MUID:73075048; PMID:4566923
A:Accession: A90366
A:Molecule type: protein
A:Residues: 188-216, 'N', 218-305 <ANG>
R:Selby, M.J.; Edwards, R.; Sharp, F.; Rutter, W.J.
Mol. Cell. Biol. 7, 3057-3064, 1987
A>Title: Mouse nerve growth factor gene: Structure and expression.
A:Reference number: I49689; MUID:88038855; PMID:3670305
A:Accession: I49689
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-307 <RES>
A:Cross-references: GB:M17298; NID:913493; PIDN:AAA37687.1; PID:9467311
R:Ulrich, A.; Gray, A.; Berman, C.H.; Coussens, L.; Dull, T.J.
Cold Spring Harb. Symp. Quant. Biol. 48, 435-442, 1983
A>Title: Sequence homology of human and mouse beta-NGF subunit genes.
A:Reference number: I52891; MUID:84206565; PMID:6527169
A:Accession: I52891
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-307 <RES>
A:Cross-references: GB:M14805; NID:9200053; PIDN:AAA39821.1; PID:9200054
C:Comment: The active molecule is a dimer of identical chains associated by noncovalent sensory ganglia in vivo and in vitro and to increase cellular neurotubule levels C:Genetics:

A:Gene: NGRB
A:Introns: 21/2: 62/3
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor; homodimer
F:1187/Domain: signal sequence and propeptide #status predicted <SIG>
F:188-305/Product: nerve growth factor beta chain #status experimental <MAT>
F:135,180/Binding site: carbohydrate (Asn) (covalent) #status predicted
F:202-267,245-295,255-297/Disulfide bonds: #status experimental
F:232/Binding site: carbohydrate (Asn) (covalent) #status absent

Query Match 98.9%; Score 646; DB 1; Length 307;
Best Local Similarity 100.0%; Pred. NO. 1.8e-59;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 STHPVFMHGEFSVCDSSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFETKCR 61
|||||
DB 188 STHPVFMHGEFSVCDSSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFETKCR 247
|||||
OY 62 SNPESGCGIDSKHMNSCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRRG 121
|||||
DB 248 SNPESGCGIDSKHMNSCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRRG 307
|||||

RESULT 2
156570
beta-nerve growth factor - rat (fragment)
C:Species: Rattus norvegicus (Norway rat)
C:Date: 26-Jul-1996 #sequence_revision 26-Jul-1996 #text_change 16-Jul-1999
C:Accession: J156570
R:Whittemore, S.R.; Friedman, P.L.; Larhammar, D.G.; Persson, H.; Gonzalez-Carvajal, M.;
J. Neurosci. Res. 20, 403-410, 1988
A:Title: Rat beta-nerve growth factor sequence and site of synthesis in the adult hippoc
A:Reference number: J156570; MUID:89037223; PMID:3184206
A:Accession: J156570
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-245 <RES>
A:Cross-references: GB:M36589; NID:g205691; PIDN:AAA41697.1; PID:g205692
C:Superfamily: nerve growth factor beta chain

Query Match 95.9%; Score 626; DB 2; Length 245;
Best Local Similarity 95.8%; Pred. NO. 1.7e-57;
Matches 115; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

OY 2 STHPVFMHGEFSVCDSSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFETKCR 61
|||||
DB 126 STHPVFMHGEFSVCDSSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFETKCR 185
|||||
OY 62 SNPESGCGIDSKHMNSCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRRG 121
|||||
DB 186 SNPESGCGIDSKHMNSCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRRG 245
|||||

RESULT 3
NCRTBA
nerve growth factor beta chain precursor - multimate rat (Mastomys natalensis)

C:Species: Mastomys natalensis
C:Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 18-Jun-1999
C:Accession: J10343
R:Fahnestock, M.; Bell, R.A.
Gene 69, 257-264, 1988
A:Title: Molecular cloning of a cDNA encoding the nerve growth factor precursor from Mas
A:Reference number: J10343; MUID:89172070; PMID:3234767
A:Accession: J10343
A:Molecule type: mRNA
A:Residues: 1-303 <FAH>
A:Cross-references: GB:M22748; NID:g202514; PIDN:AAA40599.1; PID:g202515
A:Note: It is uncertain whether Met-1 or Met-63 is the initiator
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor; homodimer; submaxillary gland

F:184-301/Product: nerve growth factor beta chain #status predicted <MAT>
F:131,176,228/Binding site: carbohydrate (Asn) (covalent) #status predicted
F:198-263,241-291,251-293/Disulfide bonds: #status predicted

Query Match 92.8%; Score 606; DB 1; Length 303;
Best Local Similarity 92.3%; Pred. NO. 2.5e-55;
Matches 111; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

OY 2 STHPVFMHGEFSVCDSSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFETKCR 61
|||||
DB 184 STHPVFMHGEFSVCDSSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFETKCR 243
|||||
OY 62 SNPESGCGIDSKHMNSCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRRG 121
|||||
DB 244 SNPESGCGIDSKHMNSCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRRG 303
|||||

RESULT 4
JL0097
nerve growth factor beta chain precursor - guinea pig
C:Species: Cavia porcellus (guinea pig)
C:Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 15-Mar-1996
C:Accession: J10097
R:Schwarz, M.A.; Fisher, D.; Bradshaw, R.A.; Isackson, P.J.
J. Neurochem. 52, 1203-1209, 1989
A:Title: Isolation and sequence of a cDNA clone of beta-nerve growth factor from the
A:Reference number: J10097; MUID:89177243; PMID:2926397
A:Accession: J10097
A:Molecule type: mRNA
A:Residues: 1-241 <SCH>
A:Note: The authors translated the codon GCU for residue 214 as Asp
C:Genetics:
A:Gene: Beta-NGF
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor; hormone
F:1-121/Domain: propeptide #status predicted <PRO>
F:112-241/Product: nerve growth factor beta chain #status predicted <MAT>
F:146-154/Region: receptor binding #status predicted
F:69,114/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 90.8%; Score 593; DB 2; Length 241;
Best Local Similarity 90.0%; Pred. NO. 4.4e-54;
Matches 108; Conservative 6; Mismatches 6; Indels 0; Gaps 0;

OY 2 STHPVFMHGEFSVCDSSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFETKCR 61
|||||
DB 122 STHPVFMHGEFSVCDSSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFETKCR 181
|||||
OY 62 SNPESGCGIDSKHMNSCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRRG 121
|||||
DB 182 SNPESGCGIDSKHMNSCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATRRG 241
|||||

RESULT 5
NGHUBM
nerve growth factor beta chain precursor - human (fragment)

C:Species: Homo sapiens (man)
C:Date: 19-Feb-1984 #sequence_revision 19-Feb-1984 #text_change 18-Jun-1999
C:Accession: A01399; S10253
R:Ullrich, A.; Gray, A.; Berman, C.; Dull, T.J.
Nature 303, 821-825, 1983
A:Title: Human beta-nerve growth factor gene sequence highly homologous to that of mo
A:Reference number: A01399; MUID:83244969; PMID:6688123
A:Accession: A01399
A:Molecule type: DNA
A:Residues: 1-286 <ULL>
A:Cross-references: GB:M22748; NID:g202514; PIDN:AAA40599.1; PID:g202515
A:Note: It is uncertain whether Met-1 or Met-63 is the initiator
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor; homodimer; submaxillary gland

F:184-301/Product: nerve growth factor beta chain #status predicted <MAT>
F:131,176,228/Binding site: carbohydrate (Asn) (covalent) #status predicted
F:198-263,241-291,251-293/Disulfide bonds: #status predicted

Db 186 RPVSSGCGIDAKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSRKSGR 242

RESULT 9

S14481

nerve growth factor beta chain precursor - African clawed frog

C:Species: *Xenopus laevis* (African clawed frog)

C>Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 16-Jul-1999

C:Accession: S14481

C:Carrier: F.; Campion, M.; Cardinal, B.; Pierandrea-Amaldi, P.

A:Submitted to the EMBL Data Library, October 1990

A:Description: Structure and expression of the nerve growth gene in *Xenopus* oocyte and

A:Reference number: S14481

A:Accession: S14481

A:Status: Preliminary

A:Molecule type: DNA

A:Residues: 1-235 <C>

A:Cross-references: EMBL:X55716; NID:g64914; PIDN:CMA39249.1; PID:g64915

C:Superfamily: nerve growth factor beta chain

Query Match 81.5%; Score 532; DB 2; Length 235;

Best Local Similarity 84.2%; Pred. No. 9.2e-48;

Matches 96; Conservative 7; Mismatches 11; Indels 0; Gaps 0;

Oy 3 STHPEFHGSEFVCDVSVMVGDKTTATDIDKGEVTVLAENVINNSVFRQYFFETKCRAS 62

Db 119 TVHPVHNGEISVCDVSVMVGDKTTATDIDKGEVTVLAENVINNSVFRQYFFETKCRNP 178

Oy 63 NPVSSGCGIDSKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSR 116

Db 179 RPVSSGCGIDAKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSR 232

RESULT 10

S28161

nerve growth factor beta chain - Russell's viper

C:Species: *Vipera russelli* (Russell's viper)

C>Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 31-Oct-1997

C:Accession: S28161

C:Carrier: R.; Inoue, S.; Ikeda, K.; Hayashi, K.

A:Biochem. Biophys. Acta 1160, 287-292, 1992

A>Title: Purification and amino-acid sequence of a nerve growth factor from the venom of

A:Reference number: S28161; MUID:93120151; PMID:1477101

A:Accession: S28161

A:Status: preliminary

A:Molecule type: protein

A:Residues: 1-117 <KOY>

C:Superfamily: nerve growth factor beta chain

Query Match 72.7%; Score 475; DB 2; Length 117;

Best Local Similarity 73.2%; Pred. No. 3.6e-42;

Matches 82; Conservative 17; Mismatches 13; Indels 0; Gaps 0;

Oy 5 HPEFHGSEFVCDVSVMVGDKTTATDIDKGEVTVLAENVINNSVFRQYFFETKCRASNP 64

Db 1 HPVHNGEISVCDVSVMVGDKTTATDIDKGEVTVLAENVINNSVFRQYFFETKCRNP 60

Oy 65 VESGCGIDSKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSR 116

Db 61 RPVSSGCGIDAKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSR 112

RESULT 11

S15193

nerve growth factor precursor - many-banded krait

C:Species: *Bungarus multicinctus* (many-banded krait)

C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999

C:Accession: S15193

C:Carrier: R.; Danse, J.M.; Garnier, J.M.

A:Growth Factors 8, 77-86, 1993

A>Title: Molecular cloning of a cDNA encoding a nerve growth factor precursor from the

A:Reference number: S15193; MUID:93192074; PMID:7916740

A:Accession: S15193

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-243 <DAN>

A:Cross-references: GB:S56212; NID:g266298; PIDN:AAB25729.1; PID:g266299

C:Superfamily: nerve growth factor beta chain

Query Match 72.1%; Score 471; DB 2; Length 243;

Best Local Similarity 72.2%; Pred. No. 2.1e-41;

Matches 83; Conservative 14; Mismatches 18; Indels 0; Gaps 0;

Oy 2 STHPEFHGSEFVCDVSVMVGDKTTATDIDKGEVTVLAENVINNSVFRQYFFETKCR 61

Db 125 NENHPVHNGEISVCDVSVMVGDKTTATDIDKGEVTVLAENVINNSVFRQYFFETKCRN 184

Oy 62 NPVSSGCGIDSKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSR 116

Db 185 RPVSSGCGIDSKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSR 239

RESULT 12

NGNXYI

nerve growth factor - Indian cobra

C:Species: *Naja naja* (Indian cobra)

C>Date: 30-Nov-1980 #sequence_revision 25-Apr-1997 #text_change 17-Mar-2000

C:Accession: S13927; A01401

C:Carrier: R.; Inoue, S.; Oda, T.; Koyama, J.; Ikeda, K.; Hayashi, K.

A:FEBS Lett. 279, 38-40, 1991

A>Title: Amino acid sequences of nerve growth factors derived from cobra venoms.

A:Reference number: S13927; MUID:91138755; PMID:1995338

A:Accession: S13927

A:Molecule type: protein

A:Residues: 1-116 <INO>

A:Experimental source: venom

A>Note: the source is designated as *Naja naja* and referred to as Indian cobra, so we

R.; Hogue-Angelietti, R.A.; Frazer, W.A.; Jacobs, J.W.; Nall, H.D.; Bradshaw, R.A.

Biochemistry 15, 26-34, 1976

A>Title: Purification, characterization, and partial amino acid sequence of nerve gro

A:Reference number: A01401; MUID:76114772; PMID:1247508

A:Accession: A01401

A:Molecule type: protein

A:Residues: 1-11, 'P', 13-14, 'B', 16, 'TBR', 20-21, 'GV', 23-27, 'N', 29-31, 'AS', 34, 'S', 36-48,

15-116 <HOG>

A:Experimental source: venom

A:Comment: Nerve growth factor is designated as *Naja naja* and referred to as Indian cobra, so we

C:Complex: homodimer

C:Superfamily: nerve growth factor beta chain

C:Keywords: growth factor; homodimer; venom

F.14-78, 56-106, 66-108/Disulfide bonds: #status predicted

Query Match 66.8%; Score 436.5; DB 1; Length 116;

Best Local Similarity 69.6%; Pred. No. 3.6e-38;

Matches 78; Conservative 14; Mismatches 19; Indels 1; Gaps 1;

Oy 5 HPEFHGSEFVCDVSVMVGDKTTATDIDKGEVTVLAENVINNSVFRQYFFETKCRASNP 64

Db 3 HPVHNGEISVCDVSVMVGDKTTATDIDKGEVTVLAENVINNSVFRQYFFETKCRNP 61

Oy 65 VESGCGIDSKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSR 116

Db 62 RPVSSGCGIDSKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSR 113

RESULT 13

A58566

nerve growth factor - Chinese cobra

C:Species: *Naja naja atra* (Chinese cobra)

C>Date: 16-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 25-Apr-1997

C:Accession: A58566

C:Carrier: R.; Oda, T.; Ohta, M.; Inoue, S.; Ikeda, K.; Furukawa, S.; Hayashi, K.

A:Biochem. Int. 19, 909-917, 1989

A>Title: Amino acid sequence of nerve growth factor purified from the venom of the Po

A:Reference number: A58566; MUID:90147847; PMID:2619756

A:Accession: A58566
A:Molecule type: protein
A:Residues: 1-116 <ODA>
A:Experimental source: venom
C:Comment: Nerve growth factor is necessary for the development of embryonic sympathetic
C:Complex: homodimer
C:Superfamily: nerve growth factor beta chain
C:Keywords: growth factor; homodimer; venom
F:14-78,56-106,66-108/Dissulfide bonds: #status predicted

Query Match 66.2%; Score 432.5; DB 2; Length 116;
Best Local Similarity 68.8%; Pred. No. 9.2e-38;
Matches 77; Conservative 15; Mismatches 19; Indels 1; Gaps 1;

Db 3 HPVHMGFEFVSVDVWVGDKTATDICKREVTVLAEVNINNSVFROYFFETCKRASN 64
133 HPVHNLGEHSVCDVSAWV-TKTATADIKGNTVVMENVDNKNVROYFFETCKKNP 61

Qy 65 VESGCRGIDSKHNSYCTTHTTEFKALTTDEKQAMRFIRIDTACVLSRK 116
116 VESGCRGIDSKHNSYCTTHTTEFKALTTDEKQAMRFIRIDTACVLSRK 116
62 EPSCGRGIDSHNSYCTETDTFIKALTMGNSMRFRIRETACVITRK 113

RESULT 14
A59218
nerve growth factor beta chain precursor - monocled cobra
C:Species: Naja naja kaouthia, Naja naja slameensis (monocled cobra)
C:Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 31-Mar-2000
C:Accession: A59218; S13965
R:Selby, M.J.; Edwards, R.H.; Rutter, W.J.
J. Neurosci. Res. 18, 293-298, 1987
A:Title: Cobra nerve growth factor: structure and evolutionary comparison.
A:Reference number: A59218; PMID:88090976; PMID:3694712
A:Accession: A59218
A:Molecule type: mRNA
A:Residues: 1-246 <SEL>
R:Inoue, S.; Oda, T.; Koyama, J.; Ikeda, K.; Hayashi, K.
FEBS Lett. 279, 38-40, 1991
A:Title: Amino acid sequences of nerve growth factors derived from cobra venoms.
A:Reference number: S13927; PMID:9113875; PMID:1995338
A:Accession: S13965
A:Molecule type: protein
A:Residues: 131-246 <INO>
A:Experimental source: venom
C:Comment: Nerve growth factor is necessary for the development of embryonic sympathetic
C:Complex: homodimer
C:Superfamily: nerve growth factor beta chain
C:Keywords: growth factor; homodimer; venom
F:1-23/Domain: signal sequence #status predicted <SIG>
F:131-246/Product: nerve growth factor beta chain #status experimental <MAT>
F:144-208,186-236,196-238/Dissulfide bonds: #status predicted

Query Match 66.2%; Score 432.5; DB 2; Length 246;
Best Local Similarity 68.8%; Pred. No. 2.1e-37;
Matches 77; Conservative 15; Mismatches 19; Indels 1; Gaps 1;

Qy 5 HPVHMGFEFVSVDVWVGDKTATDICKREVTVLAEVNINNSVFROYFFETCKRASN 64
133 HPVHNLGEHSVCDVSAWV-TKTATADIKGNTVVMENVDNKNVROYFFETCKKNP 191

Qy 65 VESGCRGIDSKHNSYCTTHTTEFKALTTDEKQAMRFIRIDTACVLSRK 116
116 VESGCRGIDSKHNSYCTTHTTEFKALTTDEKQAMRFIRIDTACVLSRK 116
192 EPSCGRGIDSHNSYCTETDTFIKALTMGNSMRFRIRETACVITRK 243

RESULT 15
151709
nerve growth factor beta chain precursor - southern platyfish
C:Species: Xiphophorus maculatus (southern platyfish)
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: I51709; S26674
R:Gotz, R.; Raulf, F.; Scharf, M.
J. Neurochem. 59, 432-442, 1992

A:Title: Brain-derived neurotrophic factor is more highly conserved in structure and
A:Reference number: I51708; PMID:92333301; PMID:1629719
A:Accession: I51709
A:Status: preliminary; translated from GB/EMBL/DBD
A:Molecule type: DNA
A:Residues: 1-194 <GOT>
A:Cross-references: EMBL:X59941; NID:g65277; PIDN:CAA42566.1; PID:g65278
C:Genetics:
A:Gene: NGF
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor
F:1-14/Domain: signal sequence #status predicted <SIG>
F:15-79/Domain: propeptide #status predicted <PRO>
F:80-194/Product: nerve growth factor beta chain #status predicted <MAT>
F:90-155,133-183,143-185/Dissulfide bonds: #status predicted
F:99/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 59.7%; Score 390; DB 2; Length 194;
Best Local Similarity 66.1%; Pred. No. 4.2e-33;
Matches 72; Conservative 13; Mismatches 24; Indels 0; Gaps 0;

Qy 9 HMGFEFVSVDVWVGDKTATDICKREVTVLAEVNINNSVFROYFFETCKRASN 68
116 HMGFEFVSVDVWVGDKTATDICKREVTVLAEVNINNSVFROYFFETCKRASN 68
Db 83 HRCVSVCESVWVGKTKATDISGKEVTVLPVNNVKKOYFFETCHSPSGSR 142

Qy 69 CRGIDSKHNSYCTTHTTEFKALTTDEKQAMRFIRIDTACVLSRK 117
117 CRGIDSKHNSYCTTHTTEFKALTTDEKQAMRFIRIDTACVLSRK 117
Db 143 CLGIDARHNSHCTNSHTFVALTSSENQVAMRLIRINACVLSRS 191

Search completed: December 2, 2002, 15:13:58
Job time: 9.64556 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 : Search time 4.96483 Seconds

(without alignments)
1010.837 Million cell updates/sec

Title: US-10-072-681-3

Perfect score: 653
Sequence: 1 PSSHPHFHMGESVCDVS.....FIRIDRACVLSRKATRRG 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database: SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	646	98.9	241	1	NGF_MOUSE
2	626	95.9	241	1	NGF_MOUSE
3	606	92.8	241	1	NGF_MOUSE
4	593	90.8	241	1	NGF_MOUSE
5	584	89.4	241	1	NGF_MOUSE
6	583	89.3	229	1	NGF_MOUSE
7	564	86.4	231	1	NGF_MOUSE
8	546	83.6	243	1	NGF_MOUSE
9	532	81.5	231	1	NGF_MOUSE
10	475	72.7	117	1	NGF_MOUSE
11	471	72.1	243	1	NGF_MOUSE
12	433.5	65.8	116	1	NGF_MOUSE
13	429.5	65.4	116	1	NGF_MOUSE
14	390	59.7	194	1	NGF_MOUSE
15	379.5	58.1	140	1	NGF_MOUSE
16	378.5	58.0	257	1	NGF_MOUSE
17	378.5	58.0	257	1	NGF_MOUSE
18	378.5	58.0	258	1	NGF_MOUSE
19	378.5	58.0	258	1	NGF_MOUSE
20	377.5	57.8	260	1	NGF_MOUSE
21	374.5	57.4	233	1	NGF_MOUSE
22	374.5	57.4	257	1	NGF_MOUSE
23	326.5	50.0	255	1	BDNF_MOUSE
24	325.5	49.8	247	1	BDNF_MOUSE
25	325.5	49.8	247	1	BDNF_MOUSE
26	325.5	49.8	247	1	BDNF_MOUSE
27	325.5	49.8	247	1	BDNF_MOUSE
28	325.5	49.8	249	1	BDNF_MOUSE
29	325.5	49.8	249	1	BDNF_MOUSE
30	325.5	49.8	252	1	BDNF_MOUSE
31	321.5	49.2	247	1	BDNF_MOUSE
32	320.5	49.1	114	1	BDNF_MOUSE
33	319.5	48.9	248	1	BDNF_MOUSE

34	319.5	48.9	270	1	BDNF_MOUSE	090322	CYP11B1
35	318.5	48.8	246	1	BDNF_MOUSE	P25429	gallus gall
36	312.5	47.9	210	1	NT5_MOUSE	P34130	homo sapien
37	311.5	47.7	269	1	BDNF_MOUSE	002193	xiphophorus
38	310.5	47.5	236	1	NT4_MOUSE	P24727	xenopus lae
39	307.5	47.1	209	1	NT5_MOUSE	P34131	rattus norv
40	304.5	46.6	114	1	BDNF_MOUSE	P25432	xenopus lae
41	229	35.1	257	1	NT6_MOUSE	P34133	homo sapien
42	224	34.3	186	1	NT6_MOUSE	P34134	homo sapien
43	222	34.0	257	1	NT6_MOUSE	P34132	homo sapien
44	165	25.3	42	1	NGF_MOUSE	P25428	vipera lebe
45	130	19.9	43	1	NT3_MOUSE	P25434	rattus norv

ALIGNMENTS

RESULT 1
NGF_MOUSE STANDARD: PRT: 241 AA.
AC P01139; 063864; 21-JUL-1986 (Rel. 01, Created)
DT 01-JAN-1990 (Rel. 13, Last sequence update)
DE 16-OCT-2001 (Rel. 40, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_Taxid=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=83167518; PubMed=6336309;
RA Scott J., Selby M.J., Urdia M.S., Quiroga M., Bell G.I., Rutter W.J.;
RT "Isolation and nucleotide sequence of a cDNA encoding the precursor
RT of mouse nerve growth factor.";
RL Nature 302:538-540(1983).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=83244969; PubMed=6688123;
RA Ullrich A., Gray A., Berman C., Dull T.J.;
RT "Human beta-nerve growth factor gene sequence highly homologous to
RT that of mouse.";
RL Nature 303:821-825(1983).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=84206565; PubMed=6327169;
RA Ullrich A., Gray A., Berman C., Dull T.J.;
RT "Sequence homology of human and mouse beta-NGF subunit genes.";
RL Cold Spring Harb. Symp. Quant. Biol. 48:435-442(1983).
RN [4]
RP SEQUENCE FROM N.A.
RX STRAIN=C57BL/6; TISSUE=Submaxillary gland;
RA MEDLINE=8803885; PubMed=3670305;
RA Selby M.J., Edwards R., Sharp F., Rutter W.J.;
RT "Mouse nerve growth factor gene: structure and expression.";
RL Mol. Cell. Biol. 7:3057-3064(1987).
RN [5]
RP SEQUENCE FROM N.A.
RX MEDLINE=93264918; PubMed=1284621;
RA Yamamoto T., Yamakuni T., Okabe N., Amano T.;
RT "Production and secretion of nerve growth factor by clonal strated
RT muscle cell line, G8-1.";
RL Neurochem. Int. 21:251-258(1992).
RN [6]
RP SEQUENCE OF 122-239.
RX MEDLINE=73075048; PubMed=4566923;
RA Angelletti R.H., Hermodson M.A., Bradshaw R.A.;
RT "Amino acid sequences of mouse 2.5S nerve growth factor. II.
RT Isolation and characterization of the thermolytic and peptic peptides
RT and the complete covalent structure.";
RL Biochemistry 12:100-115(1973).
RN [7]

```

RP X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).
RX MEDLINE-92065996; Pubmed-1956407;
RA McDonald N.O., Lapatto R., Murray-Rust J., Gunning J., Wlodawer A.,
RT Blundell T.L.;
RT "New protein fold revealed by a 2.3-A resolution crystal structure of
RT nerve growth factor.";
RL Nature 354:411-414(1991).
[8]
RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).
RX MEDLINE-94260545; Pubmed-8201620;
RA Holland D.R., Cousens L.S., Meng W., Matthews B.W.;
RT "Nerve growth factor in different crystal forms displays structural
RT flexibility and reveals zinc binding sites.";
RL J. Mol. Biol. 239:385-400(1994).
[9]
RP X-RAY CRYSTALLOGRAPHY (3.15 ANGSTROMS) OF 7S COMPLEX.
RC STAIN-Swiss Webster; TISSUE-Submaxillary gland;
RX MEDLINE-98035451; Pubmed-9351801;
RA Bax B., Blundell T.L., Murray-Rust J., McDonald N.O.;
RT "Structure of mouse 7S NGF: a complex of nerve growth factor with
RT four binding proteins.";
RL Structure 5:1275-1285(1997).
-1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC SUBUNITES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
-----
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CC EMBL; M35075; AAA39818.1; ALT_INT.
DR EMBL; V00836; CAA24221.1; ALT_INT.
DR EMBL; K01759; AAA39820.1; ALT_INT.
DR EMBL; M14805; AAA39821.1; ALT_INT.
DR EMBL; M17298; AAA37687.1; ALT_INT.
DR EMBL; M17296; AAA37687.1; JOINED.
DR EMBL; M17297; AAA37687.1; JOINED.
DR EMBL; S62089; CAB32081.2; ALT_SEQ.
DR PIR; A01400; NCMSGC.
DR PDB; 1BET; 31-MAY-94.
DR PDB; 1BTF; 08-MAR-96.
DR PDB; 1SGF; 27-MAY-98.
DR MGD; MGI:97321; NGTD.
DR InterPro; IPR02072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal; 3D-structure.
FT SIGNAL 1 18 POTENTIAL.
FT PROPEP 19 121
FT CHAIN 122 241 BETA-NERVE GROWTH FACTOR.
FT DISULFID 136 201
FT DISULFID 179 229
FT DISULFID 189 231
FT CARBOHYD 69 69 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 114 114 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CONFLICT 233 241 LSKATRRRQ->CSAGRQDEA (IN REF. 5).
SQ SEQUENCE 241 AA; 27076 MW; 164465E1DC550081 CRC64;

```

Oy	2	SSTRPVRHMGEEFSCDSVWVGKRTATDIDKGEVVLAEVNIINNSVFPQFEETFCRA	61
Db	122	SSTRHVFHMGEEFSCDSVWVGDKRTATDIDKGEVVLAEVNIINNSVFPQFEETFCRA	181
Oy	62	SNPESGCRGIDSKHMSYCTTHTFPKALTTDDKQAMRFIRIDTACVLSRKATRG	121
Db	182	SNPESGCRGIDSKHMSYCTTHTFPKALTTDDKQAMRFIRIDTACVLSRKATRG	241
RESULT 2			
ID	NGF_RAT	STANDARD:	PRT: 241 AA.
AC	P25427:		
DT	01-MAY-1992 (Rel. 22, Created)		
DT	01-FEB-1996 (Rel. 33, Last sequence update)		
DT	01-NOV-1997 (Rel. 35, Last annotation update)		
De	Beta-nerve growth factor precursor (Beta-NGF).		
GN	NGF.		
OS	Rattus norvegicus (Rat).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.		
OX	NCBI_TaxID=10116;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RX	MEDLINE=89037223; PubMed=3184206;		
RA	Whittemore S.R., Friedman P.L., Larnham D.G., Persson H.,		
RA	Gonzalez-Carvajal M., Holes V.R.;		
RT	"Rat beta-nerve growth factor sequence and site of synthesis in the		
RT	adult hippocampus.";		
RL	J. Neurosci. Res. 20:403-410(1988).		
RN	[2]		
RP	SEQUENCE OF 178-219 FROM N.A.		
RC	STRAIN=Sprague-Dawley; TISSUE=layer;		
RX	MEDLINE=91222573; PubMed=2025430;		
RA	Hallboeck F., Ibanez C.F., Persson H.;		
RT	"Evolutionary studies of the nerve growth factor family reveal a		
RT	novel member abundantly expressed in Xenopus ovary.";		
RL	Neuron 6:845-858(1991).		
CC	-I- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND		
CC	MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT		
CC	STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND		
CC	EMBRYONIC SENSORY NEURONS.		
CC	-I- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.		
CC	-I- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.		
CC	-----		
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CC	entities requires a license agreement (see http://www.isb-sib.ch/announce/		
CC	or send an email to license@isb-sib.ch).		
CC	-----		
DR	EMBL; M36589; AAA1697.1; ALT_INIT.		
DR	HSSP; P01139; 1BEF.		
DR	InterPro; IPR002072; NGF.		
DR	Pfam; PF00243; NGF; 1.		
DR	PRINTS; PRO0268; NGF.		
DR	ProDom; PDO02052; NGF; 1.		
DR	SMART; SM00140; NGF; 1.		
DR	PROSITE; PS00248; NGF_1; 1.		
DR	PROSITE; PS02070; NGF_2; 1.		
KW	Growth factor; Signal.		
FT	SIGNAL	18	POTENTIAL.
FT	PROPEP	19 121	POTENTIAL.
FT	CHAIN	122 241	BETA-NERVE GROWTH FACTOR.
FT	DISULFID	136 201	BY SIMILARITY.
FT	DISULFID	179 229	BY SIMILARITY.
FT	DISULFID	189 231	BY SIMILARITY.
FT	CARBOHYD	69	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	114	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	166	N-LINKED (GLCNAC. . .) (POTENTIAL).
SEQ	SEQUENCE	241 AA: 27009 MW; 665F42371563213D CR664;	

Query Match 95.9%; Score 626; DB 1; Length 241;
Matches 111; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Qy 2 SSTRPVHMGFEFSVCDYSVWVGDKTTATDIDKGEVTLAEVNNINSVFOYFETKCR 61
Dy 122 SSTRPVHMGFEFSVCDYSVWVGDKTTATDIDKGEVTLAEVNNINSVFOYFETKCR 181
Qy 62 SNPESECGRGIDSKHMNSYCTTHTFVKALTTDEKQAAFRIRIDTACVLSKRTARG 121
Dy 182 SNPESECGRGIDSKHMNSYCTTHTFVKALTTDEKQAAFRIRIDTACVLSKRTARG 241

RESULT 3

NGF_PRANA STANDARD; PRT; 241 AA.
AC P20675;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Praomys natalensis (African soft-furred rat) (Mastomys natalensis).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
OC Mastomys.
OX NCBI_Taxid=10112;
RN [1]
RP SEQUENCE FROM N.A.
RA MEDLINE=89172070; PubMed=1234767;
RA Fahnestock M., Bell R.A.;
RT "Molecular cloning of a cDNA encoding the nerve growth factor
RT precursor from Mastomys natalensis.";
RL Gene 69:257-264(1988).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC -----
DR EMBL: M23748; AAA40599.1; ALT_INT.
DR PIR: J0343; NCRTBA.
DR HSP: P01139; IBTG.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF. 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF. 1.
DR SMART: SM00140; NGF. 1.
DR PROSITE: PS00246; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 121
FT CHAIN 122 241
FT DISULFID 136 201
FT DISULFID 179 229
FT DISULFID 189 231
FT CARBOHYD 69 69
FT CARBOHYD 114 114
FT CARBOHYD 166 166
SQ SEQUENCE 241 AA; 27035 MW; 8BFBB207A1FFB2E7 CRC64;
Query Match 92.8%; Score 606; DB 1; Length 241;

Best Local Similarity 92.5%; Pred. No. 3e-58;
Matches 111; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

Qy 2 SSTRPVHMGFEFSVCDYSVWVGDKTTATDIDKGEVTLAEVNNINSVFOYFETKCR 61
Dy 122 SSTRPVHMGFEFSVCDYSVWVGDKTTATDIDKGEVTLAEVNNINSVFOYFETKCR 181
Qy 62 SNPESECGRGIDSKHMNSYCTTHTFVKALTTDEKQAAFRIRIDTACVLSKRTARG 121
Dy 182 SNPESECGRGIDSKHMNSYCTTHTFVKALTTDEKQAAFRIRIDTACVLSKRTARG 241

RESULT 4

NGF_CAVPO STANDARD; PRT; 241 AA.
AC P19093;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriognathi; Cavidae; Cavia.
OX NCBI_Taxid=10141;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Prostate;
RA MEDLINE=89177243; PubMed=2926397;
RA Schwarz M.A., Fisher D., Bradshaw R.A., Isaacson P.J.;
RT "Isolation and sequence of a cDNA clone of beta-nerve growth factor
RT from the guinea pig prostate gland.";
RL J. Neurochem. 52:1203-1209(1989).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
DR HSP: P01139; IBTG.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF. 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF. 1.
DR SMART: SM00140; NGF. 1.
DR PROSITE: PS00246; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 121
FT CHAIN 122 241
FT DISULFID 136 201
FT DISULFID 179 229
FT DISULFID 189 231
FT CARBOHYD 69 69
FT CARBOHYD 114 114
SQ SEQUENCE 241 AA; 26621 MW; 2F4E26B197804BF4 CRC64;
Query Match 90.8%; Score 593; DB 1; Length 241;
Matches 108; Conservative 6; Mismatches 6; Indels 0; Gaps 0;

RESULT 5

NGF_HUMAN STANDARD; PRT; 241 AA.
 ID NGF_HUMAN
 AC P0138;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-JAN-1990 (Rel. 13, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Beta-nerve growth factor precursor (Beta-NGF).
 GN NGFB.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 OC NCBI_TaxID=9606;
 RX MEDLINE=3244969; PubMed=6688123;
 RA Ullrich A., Gray A., Berman C., Dull T.J.;
 RT "Human beta-nerve growth factor gene sequence highly homologous to
 RT that of mouse.";
 RL Nature 303:821-825(1983).
 RN [2]
 RP MEDLINE=84206565; PubMed=6327169;
 RA Ullrich A., Gray A., Berman C., Coussens L., Dull T.J.;
 RT "Sequence homology of human and mouse beta-NGF subunit genes.";
 RL Cold Spring Harb. Symp. Quant. Biol. 48:435-442(1983).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC TISSUE-Brain;
 RA MEDLINE=90326556; PubMed=2374737;
 RS Borsani G., Fizzi A., Rugari E.I., Falini A., Silani V.,
 RA Siodoli A., Scarlato G., Baralle F.E.;
 RT "cDNA sequence of human beta-NGF.";
 RL Nucleic Acids Res. 18:4020-4020(1990).
 RN [4]
 RP SEQUENCE OF 178-219 FROM N.A.
 RC TISSUE-Leukocyte;
 RX MEDLINE=9122573; PubMed=2025430;
 RA Hallboeck F., Ibanez C.F., Persson H.;
 RT "Evolutionary studies of the nerve growth factor family reveal a
 RT novel member abundantly expressed in Xenopus ovary.";
 RL Neuron 6:845-858(1991)
 CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
 CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
 CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
 CC EMBRYONIC SENSORY NEURONS.
 CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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 CC -----
 DR EMBL: VO1511; CAA24755.1; -;
 DR EMBL: M21062; AA559931.1; -;
 DR EMBL: X52589; CAA36832.1; -;
 DR PIR: A01399; NGHDM.
 DR PIR: S10253; S10253.
 DR HSSP: P01139; 1BET.
 DR Genew: HGNC:7608; NGFB.
 DR MIM: 162030; -;
 DR InterPro: IPR002072; NGF.
 DR Pfam: PF00243; NGF; 1.
 DR PRINTS: PR00268; NGF.
 DR ProDom: PD002052; NGF; 1.
 DR SMART: SM00140; NGF; 1.
 DR PROSITE: PS00248; NGF_1; 1.
 DR PROSITE: PS0270; NGF_2; 1.
 DR Growth factor; Signal; 1.
 FT SIGNAL 1 18 POTENTIAL.

FT PROPEP 19 121
 FT CHAIN 122 241
 FT DISULFID 136 201
 FT DISULFID 179 229
 FT DISULFID 189 231
 FT CARBOHYD 69 69
 FT CARBOHYD 114 114
 SQ SEQUENCE 241 AA; 26987 MW; CFI84DC6B736B0F CRC64;
 Query Match 89.48; Score 584; DB 1; Length 241;
 Best Local Similarity 89.98; Pred. No. 7.2e-56;
 Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;
 QY 2 SSTRPVERHMGESVCDSSVWVGDKTTATDICKGEVTVLAENVINNSYFRQYFFETKRA 61
 DB 122 SSSHPTRHGFESVCDSSVWVGDKTTATDICKGEVTVLAENVINNSYFRQYFFETKRA 181
 QY 62 SNPVEGCGRGIDSKHMNSYCTTHTFVKALITDEKQAAAFRIIDTACVLSKRAFR 120
 DB 182 PNPVDSGCGRGIDSKHMNSYCTTHTFVKALITMDGQAAAFRIIDTACVLSKRAVRR 240
 RESULT 6
 NGF_PIG STANDARD; PRT; 229 AA.
 ID NGF_PIG
 AC Q29074;
 DT 01-NOV-1997 (Rel. 35, Created)
 DT 01-NOV-1997 (Rel. 35, Last sequence update)
 DT 01-NOV-1997 (Rel. 35, Last annotation update)
 DE Beta-nerve growth factor precursor (Beta-NGF) (Fragment).
 GN NGFB.
 OS Sus scrofa (pig).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Suidae; Suidae; Sus.
 OC NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-Large white; TISSUE-Blood;
 RX MEDLINE=9431891; PubMed=8039422;
 RA Lablilb-Mansais Y., Mellink C., Terle M., Gellin J.;
 RT "A new marker (NGFB) on pig chromosome 4, isolated by using a
 RT consensus sequence conserved among species.";
 RL Cytogenet. Cell Genet. 67:120-125(1994).
 CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
 CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
 CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
 CC EMBRYONIC SENSORY NEURONS.
 CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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 CC -----
 DR EMBL: L31898; AAA21301.1; -;
 DR HSSP: P01139; 1BET.
 DR InterPro: IPR002072; NGF.
 DR Pfam: PF00243; NGF; 1.
 DR ProDom: PD002052; NGF; 1.
 DR SMART: SM00140; NGF; 1.
 DR PROSITE: PS00248; NGF_1; 1.
 DR PROSITE: PS0270; NGF_2; 1.
 KW Growth factor; Signal; 1.
 FT NON_TER 1 1
 FT SIGNAL <1 6 POTENTIAL.
 FT PROPEP 7 109 BY SIMILARITY.
 FT CHAIN 110 229 BY SIMILARITY.
 FT DISULFID 124 189 BY SIMILARITY.
 FT DISULFID 167 217 BY SIMILARITY.

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FT  DISULF  177  219  BY SIMILARITY.
FT  CARBOHYD  57  N-LINKED (GLCNAC. . .) (POTENTIAL).
FT  CARBOHYD  102  102  N-LINKED (GLCNAC. . .) (POTENTIAL).
FT  CARBOHYD  154  154  N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ  SEQUENCE  229  AA;  25275  MW;  FE8890771CBA3189  CRC64;

Query March 89.3%; Score 583; DB 1; Length 229;
Best Local Similarity 90.8%; Pred. No. 8.7e-56;
Matches 108; Conservative 3; Mismatches 8; Indels 0; Gaps 0;

QY  2  SSTRPVEHMGESVYCDYSVWVGDKTATTDIKGEVTLAEVYINNSYEROYFETKCGRA 61
Db  110  SSSHVEFRGEGSVCDYSVWVGDKTATTDIKGEVTLAEVYINNSYFKQFFETKCRD 169
QY  62  SNPVESGCRGIDSKHWSYCTTHTFVVALTDEKQAAWRFRIIDPACVLSKRAATR 120
Db  170  PNPVDSGCRGIDSKHWSYCTTHTFVVALTMDGKQAAWRFRIIDPACVLSKRAGR 228

RESULT 7
NGF_BOVIN STANDARD; PRT; 231 AA.
ID  NGF_BOVIN
AC  P13600; 018969;
DT  01-JAN-1990 (Rel. 13, Created)
DT  15-JUL-1998 (Rel. 36, Last sequence update)
DT  15-JUL-1998 (Rel. 36, Last annotation update)
DE  Beta-nerve growth factor precursor (Beta-NGF) (Fragment).
GN  NGFB.
OS  Bos taurus (Bovine).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC  Bovidae; Bovinae; Bos.
OX  NCBI_TaxID:9913;
RN  11
RP  SEQUENCE FROM N.A.
RC  TISSUE=Blood;
RX  MEDLINE-97430845; PubMed-9284944;
RA  Elouque C., Laurent P., Hayes H., Rodellar C., Levezuel H.,
RA  Zaragoza P.;
RT  "Assignment of the beta-nerve growth factor (NGFB) to bovine
RL  chromosome 3 band q23 by in situ hybridization."
RT  Cytogenet. Cell Genet. 77:306-307(1997).
RN  12
RP  SEQUENCE OF 107-231 FROM N.A.
RX  MEDLINE-86300647; PubMed-2427334;
RA  Meier R., Becker-Andre M., Gotz R., Heumann R., Shaw A., Thoenen H.;
RT  "Molecular cloning of bovine and chick nerve growth factor (NGF):
RT  delineation of conserved and unconserved domains and their
RT  relationship to the biological activity and antigenicity of NGF.";
RL  EMBO J. 5:1489-1493(1986).
CC  -1 FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC  MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC  STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC  EMBRYONIC SENSORY NEURONS.
CC  -1 SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC  -1 SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC  -----
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CC  or send an email to license@isb-sib.ch).
CC  -----
DR  EMBL; Y09566; CA470759.1; -;
DR  EMBL; M26809; AAA30666.1; -;
DR  PIR; A26312; A26312.
DR  HSSP; P01139; 1BET.
DR  InterPro; IPR002072; NGF.
DR  Pfam; PF00243; NGF; 1.
DR  ProDom; PD002052; NGF; 1.
DR  SMART; SM00140; NGF; 1.

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DR	PROSITE:	PS00248;	NGF_1; 1.
DR	PROSITE:	PS50270;	NGF_2; 1.
KW	Growth factor;	Signal.	
FT	NON_TER	1	POTENTIAL.
FT	SIGNAL	<1	BY SIMILARITY.
FT	PROPEP	9	BETA-NERVE GROWTH FACTOR.
FT	CHAIN	112	BY SIMILARITY.
FT	DISULEID	126	BY SIMILARITY.
FT	DISULEID	169	BY SIMILARITY.
FT	DISULEID	179	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	156	L -> F (IN REF. 2).
FT	CONFLICT	118	R -> RA (IN REF. 2).
FT	CONFLICT	161	AP -> RA (TN REF. 2).
FT	CONFLICT	230	
SQ	SEQUENCE	231 AA;	01605099291A4B C R C K C 64;
	Query Match	86.4%;	Score 564; DB 1; Length 231;
	Best Local Similarity	89.6%;	Pred. No. 9.9e-54;
	Matches 103;	Conservative 4;	Mismatches 8; Indels 0; Gaps 0;
OY	2	SSSTHEVFHMGERSVCDSVVWGDKTTATADIKGKVTYLAEVYNNVSVPROYFEETCKRA 61	
Db	112	SSSHPEVLHARGESVCDSSVWVGDTKTATADIKGEVMYLGEVINNSVFOYFEETCKRD 171	
OY	62	SNPVSGCGRGIDSKRMNVCCTTTHFEVKALITDDEKQAMRFRIPTACVCYSRK 116	
Db	172	PNPVDSGCGRGIDAKHMNSVCTTTHFEVKALITMDGRQAMRFRIDTACVCYSRK 226	
	RESULT 8		
NGF_CHICK	ID	NGF_CHICK	STANDARD; PRT; 243 AA.
AC	P05200;		
DT	13-AUG-1987	(Rel. 05, Created)	
DT	13-AUG-1987	(Rel. 05, Last sequence update)	
DT	15-JUN-2002	(Rel. 41, Last annotation update)	
DE	Beta-nerve growth factor precursor. (Beta-NGF).		
GN	NGFB.		
OS	Gallus gallus (Chicken).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianine;		
CC	Gallus.		
OX	NCBI_TaxID=9031;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RX	MEDLINE=86300646; PubMed=3017695;		
RA	Ebendahl T., Larhammar D., Persson H.;		
RT	"Structure and expression of the chicken beta nerve growth factor gene."		
RL	EMBO J. 5:1483-1487(1986).		
RN	[2]		
RP	SEQUENCE OF 118-243 FROM N.A.		
RX	MEDLINE=86248129; PubMed=3720959;		
RA	Wion D., Perret C., Frechin N., Keller A., Behar G., Brachet P.,		
RA	AufRAY C.;		
RT	"Molecular cloning of the avian beta-nerve growth factor gene: transcription in brain.";		
RL	FEBS Lett. 203:82-86(1986).		
RN	[3]		
RP	SEQUENCE OF 121-243 FROM N.A.		
RX	MEDLINE=86300647; PubMed=2427334;		
RA	Meier R., Becker Andre M., Gotz R., Heumann R., Shaw A., Thoenen H.;		
RT	"Molecular cloning of bovine and chick nerve growth factor (NGF): delineation of conserved and unconserved domains and their relationship to the biological activity and antigenicity of NGF.";		
RL	EMBO J. 5:1489-1493(1986).		
RN	[4]		
RP	SEQUENCE OF 181-222 FROM N.A.		
RX	MEDLINE=9122573; PubMed=2025430;		
RA	Hallboeck F., Idanez C.F., Persson H.;		
RT	"Evolutionary studies of the nerve growth factor family reveal a novel member abundantly expressed in Xenopus ovary.";		
RL	Neuron 6:845-858(1991).		


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CC -----
DR EMBL; S56212; AAB25729.1; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF.1.
DR PRINTS; PR00268; NGF.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS0270; NGF_2; 1.
KH Growth factor; Signal.
FT SIGNAL 1 18 POTENTIAL.
FT PROPEP 19 125
FT CHAIN 126 243 NERVE GROWTH FACTOR.
FT DISULFID 139 204 BY SIMILARITY.
FT DISULFID 182 232 BY SIMILARITY.
FT DISULFID 192 234 BY SIMILARITY.
SQ SEQUENCE 243 AA; 27514 MW; E33F64B142179A08 CRC64;

Query Match 72.1%; Score 471; DB 1; Length 243;
Best Local Similarity 72.2%; Pred. NO. 1.1e-43;
Matches 83; Conservative 14; Mismatches 18; Indels 0; Gaps 0;

QY 2 SSTRPFHMGESVCDSDSVWVGDTTATDIDKGEKVTYLAELVINSYFROYFETKCRNA 61
DB 125 NENHPVHNGEHSVCDSDLSVWVTNKTATDIDKGNVTYVWVDVNLNNEYVKKQFFETKCRN 184
QY 62 SNPVSGCGRGIDSKMNSYCTTHTFYKALTTDEQAAAMRFRRIDTACVCYSRK 116
DB 185 PNPVSGCGRGIDSRHMNSYCTTDTFYKALIMEGNRASMRFRRIDTACVCYSRK 239

RESULT 12
NGF_NAJNA
ID NGF_NAJNA STANDARD; PRT; 116 AA.
AC P01140;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-MAY-1991 (Rel. 18, Last sequence update)
DT 01-JUL-1993 (Rel. 26, Last annotation update)
DE Nerve growth factor (NGF).
OS Naja naja (Indian cobra).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Lepidodermata; Squamata; Scleroglossa; Serpentes; Colubroidae;
OC Elapidae; Elapidae; Naja.
OX NCBI_TaxID=35670;
RN [1]
RN TISSUE=Venom;
RC MEDLINE=91138755; PubMed=1995338;
RA Inoue S., Oda T., Koyama J., Ikeda K., Hayashi K.;
RT "Amino acid sequences of nerve growth factors derived from cobra
venoms."
RL FEBS Lett. 279:38-40(1991).
RN [2]
RN PRELIMINARY SEQUENCE.
RC TISSUE=Venom;
RX MEDLINE=76114772; PubMed=1247508;
RA Brodshaw R.A.;
RT "Purification, characterization, and partial amino acid sequence of
RT nerve growth factor from cobra venom."
RL Biochemistry 15:26-34(1976).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NEURONS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
CC NEURONS IN THE BRAIN.
CC -1- SUBUNIT: HOMODIMER.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC PIR; A01401; NGNOXI.
DR PIR; S13927; S13927.

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DR HSSP; P01139; 1BET.
 DR Interpro: IPR002400; GF_cyskn0t.
 DR Interpro: IPR002072; NGF.
 DR Pfam: PF00243; NGF_1.
 DR PRINTS: PR00438; GRCYSNOT.
 DR PRINTS: PR00268; NGF.
 DR PRODOM: PD002052; NGF_1.
 DR SMART: SM00140; NGF_1.
 DR PROSITE: PS00248; NGF_1; 1.
 DR PROSITE: PS50270; NGF_2; 1.
 DR Growth factor.
 KM DISULFID 14 78 BY SIMILARITY.
 FT DISULFID 36 106 BY SIMILARITY.
 FT DISULFID 66 108 BY SIMILARITY.
 SQ SEQUENCE 116 AA; 13022 MW; DAB346B1093E7E06 CRC64;
 Query Match 66.4%; Score 433.5; DB 1; Length 116;
 Best Local Similarity 68.8%; Pred. No. 5,6e-40;
 Matches 77; Conservative 15; Mismatches 19; Indels 1; Gaps 1;
 OY 5 HPVFHMGFSYCDYSVWVGDKTTATDIDKGEVTVLAENVNINSVFRQYFETKCRASNP 64
 DB 3 HPVHNLGSHVCDYSVSAWV-TKTATDIDKGTVMENVNLDNKYKEYFETKCKNP 61
 OY 65 VESGCRGIDSKHNSYCTTHTFVKALTTDEKQAMRIRIDTACVLSRK 116
 DB 62 EPSGCRGIDSHMSYCTETDIFKALTMEGNQASMRIRIDTACVITRK 113
 RESULT 13
 NGF_MAJAT STANDARD; PRT; 116 AA.
 AC P21377;
 DT 01-MAY-1991 (Rel. 18, Created)
 DT 01-MAY-1991 (Rel. 18, Last sequence update)
 DT 01-JUL-1993 (Rel. 26, Last annotation update)
 DE Nerve growth factor (NGF).
 OS Naja atra (Chinese cobra), and
 OS Naja naja kaouthia (Monocled cobra) (Naja naja siamensis).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Lepidosteina; Squamata; Scieroglossa; Serpentes; Colubroidae;
 CC Elapidae; Elapinae; Naja.
 CC NCBI_TaxID=8656, 8649;
 RN [1]
 RP SEQUENCE.
 RC SPECIES-N.n.atra; TISSUE-Venom;
 RX MEDLINE-90147847; PubMed-2619756;
 RA Oda T., Ohta M., Inoue S., Ikeda K., Furukawa S., Hayashi K.;
 RT "Amino acid sequence of nerve growth factor purified from the venom
 of the Formosan cobra Naja naja atra.";
 RL Biochem. Int. 19:909-917(1989).
 RN [2]
 RP SEQUENCE.
 RC SPECIES-N.n.kouthia; TISSUE-Venom;
 RX MEDLINE-91138755; PubMed-1995338;
 RA Inoue S., Oda T., Koyama J., Ikeda K., Hayashi K.;
 RT "Amino acid sequences of nerve growth factors derived from cobra
 venoms.";
 RL FEBS Lett. 279:38-40(1991).
 CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
 MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
 STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
 EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
 NEURONS IN THE BRAIN.
 CC -1- SUBUNIT: HOMODIMER.
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
 CC PIR: S13965; S13965.
 DR HSSP; P01139; 1BET.
 DR Interpro: IPR002400; GF_cyskn0t.
 DR Interpro: IPR002072; NGF.
 DR Pfam: PF00243; NGF_1.
 DR PRINTS: PR00243; NGF_1.
 DR PRINTS: PR00438; GRCYSKN0T.
 DR PRINTS: PR00268; NGF.

DR PRODOM: PD002052; NGF_1.
 DR SMART: SM00140; NGF_1.
 DR PROSITE: PS00248; NGF_1; 1.
 DR PROSITE: PS50270; NGF_2; 1.
 DR Growth factor.
 KM DISULFID 14 78 BY SIMILARITY.
 FT DISULFID 36 106 BY SIMILARITY.
 FT DISULFID 66 108 BY SIMILARITY.
 SQ SEQUENCE 116 AA; 13064 MW; DAB34421093F3B06 CRC64;
 Query Match 65.8%; Score 429.5; DB 1; Length 116;
 Best Local Similarity 67.9%; Pred. No. 1,5e-39;
 Matches 76; Conservative 16; Mismatches 19; Indels 1; Gaps 1;
 OY 5 HPVFHMGFSYCDYSVWVGDKTTATDIDKGEVTVLAENVNINSVFRQYFETKCRASNP 64
 DB 3 HPVHNLGSHVCDYSVSAWV-TKTATDIDKGTVMENVNLDNKYKEYFETKCKNP 61
 OY 65 VESGCRGIDSKHNSYCTTHTFVKALTTDEKQAMRIRIDTACVLSRK 116
 DB 62 EPSGCRGIDSHMSYCTETDIFKALTMEGNQASMRIRIDTACVITRK 113
 RESULT 14
 NGF_XIPMA STANDARD; PRT; 194 AA.
 AC P34129;
 DT 01-FEB-1994 (Rel. 28, Created)
 DT 01-FEB-1994 (Rel. 28, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Nerve growth factor precursor (NGF).
 OS Xiphophorus maculatus (Southern platyfish).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 CC Acanthomorpha; Acanthopterygii; Percomorph; Atherinomorpha;
 CC Cyprinodontiformes; Poeciliidae; Xiphophorus.
 CC NCBI_TaxID=8083;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-92333301; PubMed-1629719;
 RA Goetz R., Raulf F., Scharf M.;
 RT "Brain-derived neurotrophic factor is more highly conserved in
 structure and function than nerve growth factor during vertebrate
 evolution.";
 RL J. Neurochem. 59:432-442(1992).
 CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
 MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
 STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
 EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
 NEURONS IN THE BRAIN.
 CC -1- SUBUNIT: HOMODIMER.
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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 DR EMBL; X59941; CAA42566.1; -
 DR HSSP; P01139; 1BET.
 DR Interpro: IPR002072; NGF.
 DR Pfam: PF00243; NGF_1.
 DR PRINTS: PR00268; NGF.
 DR PRODOM: PD002052; NGF_1.
 DR SMART: SM00140; NGF_1.
 DR PROSITE: PS00248; NGF_1; FALSE_NEG.
 DR PROSITE: PS50270; NGF_2; 1.
 DR Growth factor; Signal.
 FT SIGNAL 1 30 POTENTIAL.
 FT PROPEP 31 79

FT CHAIN 80 194 NERVE GROWTH FACTOR.
 FT DISULFID 90 155 BY SIMILARITY.
 FT DISULFID 133 183 BY SIMILARITY.
 FT DISULFID 143 185 BY SIMILARITY.
 SO SEQUENCE 194 AA; 21596 MM; 0369E0FA51147AE CRC64;

Query Match 59.7%; Score 390; DB 1; Length 194;
 Best Local Similarity 66.1%; Pred. No. 4.9e-35;
 Matches 72; Conservative 13; Mismatches 24; Indels 0; Gaps 0;

OY 9 HMGESVCDVSVMWGDXTATDIDKGEVTVLAEVNINNSVFRQYFETKCRASNPVSG 68
 DB 83 HRGVSVCESVVMWGNKTKATDISGRKEVTVLPYVINNVKMKQYFETTCSPSPGSR 142

OY 69 CRGIDSKHNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLCVSL 117
 DB 143 CLGIDARHNSHCNTSHFTVLTSSNQVAMRLIRINACVLCVLSRS 191

RESULT 15

NT7_CYPCA STANDARD: PRT; 140 AA.

AC 093474;

DT 16-OCT-2001 (Rel. 40, Created)

DT 16-OCT-2001 (Rel. 40, Last sequence update)

DT 15-JUN-2002 (Rel. 41, Last annotation update)

DE Neurotrophin-7 precursor (NT-7) (Fragment).

GN NT7 OR NT7 OR NNT.

OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;

OC Cyprinidae; Cyprinus.

OX NCBI_Taxid-7962;

RN [1]

RP SEQUENCE FROM N.A.

RX PubMed-9618228;

RT Lai K.-O., Fu W.-Y., Ip F.C.F., Ip N.Y.;

"Cloning and expression of a novel neurotrophin, NT-7, from carp.";

Mol. Cell. Neurosci. 11:64-76(1998).

-1- SUBCELLULAR LOCATION: Secreted.

-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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CC or send an email to license@isb-sib.ch).

CC -----

DR EMBL: U94949; AAC25632.1; -.

DR HSP: P01139; 1SGF.

DR InterPro: IPR002072; NGF.

DR Pfam: PF00243; NGF; 1.

DR PRINTS: PR00268; NGF.

DR PRODOM: PD002052; NGF; 1.

DR SMART: SM00140; NGF; 1.

DR PROSITE: PS00248; NGF_1; 1.

DR PROSITE: PS0270; NGF_2; 1.

KW Growth factor.

FT NON_TER 1 1

FT PROPEP <1 7

FT CHAIN 8 140

FT DISULFID 21 101

FT DISULFID 64 129

FT DISULFID 89 131

FT VARIANT 70 70

FT VARIANT 95 95

SO SEQUENCE 140 AA; 15855 MM; 3F5EBCE2601B0FC CRC64;

Query Match 58.1%; Score 379.5; DB 1; Length 140;

Best Local Similarity 56.3%; Pred. No. 4.7e-34;

Matches 71; Conservative 14; Mismatches 26; Indels 15; Gaps 1;

OY 9 HMGESVCDVSVMWGDXTATDIDKGEVTVLAEVNINNSVFRQYFETKCRASNPVSG 65

DB 14 HRGEYSVCDSEHWNLTQATDLRGNVTVLPYVINNVKMKQYFETTCSPSPGSR 73

OY 66 -----ESGCRGIDSKHNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLCVSL 113

DB 74 KPGCGSVGKAGTSSCRGIDNEHNSYCTNVTFTVRLTSTKNOJAMRFIRINACVLCVSL 133

OY 114 SRKATR 119

DB 134 SRNSWR 139

Search completed: December 2, 2002, 15:12:43
 Job time : 5.96483 secs

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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 : Search time 18.7245 Seconds

(without alignments)
1331.501 Million cell updates/sec

Title: US-10-072-681-3

Perfect score: 653

Sequence: 1 PSTHPVHFHMGFEFVSVCDSVS.....FIRDPACVCLSRKATRRG 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :
1: SP_TREMBL_21:*
2: SP_archaea:*
3: SP_bacteria:*
4: SP_fungi:*
5: SP_human:*
6: SP_invertebrate:*
7: SP_mhc:*
8: SP_mhc:*
9: SP_mhc:*
10: SP_mhc:*
11: SP_mhc:*
12: SP_mhc:*
13: SP_mhc:*
14: SP_mhc:*
15: SP_mhc:*
16: SP_mhc:*
17: SP_mhc:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	584	89.4	241	4 Q9P208	Q9P208 homo sapien
2	584	89.4	241	4 Q9UKL8	Q9UKL8 homo sapien
3	584	89.4	241	6 Q9N2F1	Q9N2F1 pan troglod
4	584	89.4	241	6 Q9N2F0	Q9N2F0 gorilla gor
5	584	89.4	241	6 Q9N2E9	Q9N2E9 pongo pygma
6	577	88.4	294	11 Q91XB4	Q91XB4 mus musculu
7	576	88.2	241	4 Q96P60	Q96P60 homo sapien
8	522	79.9	217	6 Q9N183	Q9N183 macaca fusc
9	478	73.2	241	13 Q9OW38	Q9OW38 bothrops ja
10	471	72.1	241	13 Q9DE29	Q9DE29 crocalus du
11	424	64.9	87	6 Q9TTC3	Q9TTC3 cervus elap
12	416	63.7	87	4 Q9P224	Q9P224 homo sapien
13	347.5	53.2	286	13 Q91988	Q91988 xiphophorus
14	335.5	51.4	241	6 Q9N182	Q9N182 macaca fusc
15	325.5	49.8	153	11 Q9CYL3	Q9CYL3 mus musculu
16	325.5	49.8	247	6 Q97759	Q97759 allurus ful

17	325.5	49.8	249	11 Q9VHH4	Q9VHH4 mus musculu
18	320.5	49.1	246	13 Q8G76	Q8G76 japalura sp
19	319.5	48.9	270	13 Q9YH42	Q9YH42 brechylura sp
20	318.5	48.8	177	13 Q918L2	Q918L2 poephila gu
21	318.5	48.8	246	13 Q8G74	Q8G74 cyclophiops
22	314.5	48.2	246	13 Q8G75	Q8G75 phrynocephala
23	305	46.7	247	13 Q8G77	Q8G77 tylosotriclo
24	296.5	45.4	101	6 Q9T22	Q9T22 macaca fusc
25	270	41.3	324	13 Q9XV95	Q9XV95 lampetra fl
26	262.5	40.2	186	12 Q9V5D9	Q9V5D9 fowlpox vir
27	227	34.8	85	6 Q02790	Q02790 macropus fu
28	221	33.8	85	6 Q13114	Q13114 isodon mac
29	221	33.8	85	6 Q13122	Q13122 tarsipes ro
30	221	33.8	85	6 Q02795	Q02795 ornithorhyn
31	221	33.8	85	6 Q02798	Q02798 petarus br
32	221	33.8	85	6 Q13104	Q13104 cercarctus
33	221	33.8	85	6 Q02792	Q02792 notoryctes
34	221	33.8	85	6 Q13105	Q13105 dasyrodides
35	221	33.8	85	6 Q02801	Q02801 tachyglousu
36	220	33.7	85	6 Q02803	Q02803 trichosurus
37	197	30.2	42	6 Q02794	Q02794 ornithorhyn
38	195	29.9	42	6 Q02800	Q02800 tachyglousu
39	194	29.7	42	6 Q02802	Q02802 trichosurus
40	161	24.7	185	11 Q99NV9	Q99NV9 pedetes cap
41	160	24.5	184	6 Q9BFC5	Q9BFC5 tupia mino
42	160	24.5	185	6 Q9BFC6	Q9BFC6 talpa alta
43	160	24.5	185	6 Q9BFC5	Q9BFC5 condylura c
44	160	24.5	186	6 Q9BFL3	Q9BFL3 choiopeus h
45	160	24.5	186	6 Q9BFL2	Q9BFL2 choiopeus d

ALIGNMENTS

RESULT 1	ID	Q9P208	PRELIMINARY;	PRT;	241 AA.
AC	Q9P208	Q9P208			
DT	01-OCT-2000	(TREMBLrel. 15, Created)			
DT	01-OCT-2000	(TREMBLrel. 15, Last sequence update)			
DT	01-DEC-2001	(TREMBLrel. 19, Last annotation update)			
DE	Beta-nerve growth factor (Fragmen).				
GN	BETA-NGF.				
OS	Homo sapiens (Human).				
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;				
OC	Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.				
OX	NCBI_TaxID=9606;				
RN	[1]				
RP	SEQUENCE FROM N.A.				
RA	Kitano T., Kobayakawa H., Saitou N.;				
RT	"Silver Project.;"				
RL	Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.				
DR	EMBL; AB037517; BAA90437.1; -				
DR	HSSP; P01139; 1BET.				
DR	InterPro; IPR002072; NGF.				
DR	Pfam; PF00243; NGF.1.				
DR	PRINTS; PR00268; NGF.				
DR	PRODom; PD002052; NGF.1.				
DR	SMART; SM00140; NGF.1.				
DR	PROSITE; PS00248; NGF.1; 1.				
DR	PROSITE; PS0270; NGF.2; 1.				
FT	NON_TER	241			
SO	SEQUENCE	241 AA;	26998 MW;	D5531ED825D96C14 CRC64;	
Query Match		89.4%;	Score 584;	DB 4;	Length 241;
Best Local Similarity		89.9%;	Pred. No. 1.1e-58;		
Matches 107;	Conservative	4;	Mismatches	8;	Indels 0;
QY	2	SSTHPVHFHMGFEFVSVCDSVSVMGDKTATIDKGEVYVLAEVNINNSVFRQYFETCRGA	61		
DB	122	SSHPHHRHGFVSVCDSVSVMGDKTATIDKGEVYVLAEVNINNSVFRQYFETCRD	181		
QY	62	SNPESGCRGIDSKHMSYCTTHTTFKALTTDEKQAMRIRIDTACVCLSRKATRR	120		

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DB 182 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRAVRR 240
|||||
RESULT 2
Q9UKL8 PRELIMINARY: PRT: 241 AA.
AC Q9UKL8;
DT 01-MAY-2000 (TREMBlrel. 13, Created)
DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
DT 01-MAR-2002 (TREMBlrel. 20, Last annotation update)
DE Nerve growth factor B.
GN NGFB.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
CX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=9256269; PubMed=10322959;
RA Tong Y., Wang H., Chen W.;
RT "Cloning and sequencing of the gene for premature beta nerve growth
factor.";
RL Chung Kuo Ying Yung Sheng Li Hsueh Tsa Chih 13:316-318(1997).
RN [2]
RP SEQUENCE FROM N.A.
RA Tong Y., Wang H.;
RL Submitted (MAY-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF150960; AAD55975.1; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF_1; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS0270; NGF_2; 1.
SQ SEQUENCE 241 AA; 26959 MW; 619DFC65EB3BD671 CRC64;

Query Match 89.4%; Score 584; DB 4; Length 241;
Best Local Similarity 89.9%; Pred. No. 1.le-58;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 2 SSTHPVFHMGESVCDSDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFFETKCA 61
|||||
DB 122 SSSHPFHRGFSVCDSDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFFETKCD 181
|||||
QY 62 SNPVESGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRAVRR 120
|||||
DB 182 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRAVRR 240
|||||

RESULT 3
Q9N2F1 PRELIMINARY: PRT: 241 AA.
ID Q9N2F1;
AC Q9N2F1;
DT 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE Beta-nerve growth factor (Fragment).
GN BETA-NGF.
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Pan.
CX NCBI_TaxID=9598;
RN [1]
RP SEQUENCE FROM N.A.
RA STRAIN=CHMP-220;
RA Kitano T., Kobayakawa H., Saitou N.;
RT "Silver Project.";
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB037518; BAA90438.1; -.
HSSP; P01139; 1BET.
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DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS0270; NGF_2; 1.
FT NON_TER 241 241
SQ SEQUENCE 241 AA; 26868 MW; B39FA8912C00A0B CRC64;

Query Match 89.4%; Score 584; DB 6; Length 241;
Best Local Similarity 89.9%; Pred. No. 1.le-58;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 2 SSTHPVFHMGESVCDSDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFFETKCA 61
|||||
DB 122 SSSHPFHRGFSVCDSDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFFETKCD 181
|||||
QY 62 SNPVESGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRAVRR 120
|||||
DB 182 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRAVRR 240
|||||

RESULT 4
Q9N2F0 PRELIMINARY: PRT: 241 AA.
ID Q9N2F0;
AC Q9N2F0;
DT 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE Beta-nerve growth factor (Fragment).
GN BETA-NGF.
OS Gorilla gorilla (gorilla).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Gorilla.
CX NCBI_TaxID=9593;
RN [1]
RP SEQUENCE FROM N.A.
RA STRAIN=GORILLA-01;
RA Kitano T., Kobayakawa H., Saitou N.;
RT "Silver Project.";
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB037519; BAA90439.1; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS0270; NGF_2; 1.
FT NON_TER 241 241
SQ SEQUENCE 241 AA; 26915 MW; 6F54D163C384BB34 CRC64;

Query Match 89.4%; Score 584; DB 6; Length 241;
Best Local Similarity 89.9%; Pred. No. 1.le-58;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 2 SSTHPVFHMGESVCDSDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFFETKCA 61
|||||
DB 122 SSSHPFHRGFSVCDSDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQYFFETKCD 181
|||||
QY 62 SNPVESGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRAVRR 120
|||||
DB 182 PNPVDSGCGIDSKHMNSYCTTHTFVKALTMDSKQAAAMRFIRIDTACVLSRAVRR 240
|||||

RESULT 5
Q9N2E9 PRELIMINARY: PRT: 241 AA.
ID Q9N2E9;
AC Q9N2E9;
DT 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
```

DT 01-DEC-2001 (Tremblrel. 19, last annotation update)
DE Beta-nerve growth factor (Fragment).
GN BETA-NGF.
OS Pongo pygmaeus (Orangutan).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Pongo.
RN NCBL_TaxID=9600;
[1]
RP SEQUENCE FROM N.A.
RC STRAIN=ORAN-U1.
RA Kitano T., Kobayakawa H., Saito N.;
RT Silver Project.
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB037520; BAA90440.1; -
DR HSSP; P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
FT NON_TER 241 241
SQ SEQUENCE 241 AA; 26876 MW; DFC168E7E4E01F15 CRC64;

Query Match 89.4%; Score 584; DB 6; Length 241;
Best Local Similarity 89.9%; Pred. No. 1.1e-58;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

OY 2 SSTRPVFMGEFSVCSVSWVGDKTTATDIDKKEVTLAEVINNSVPROYFEETRCRA 61
DB 122 SSSHPIFHGEFSVCSVSWVGDKTTATDIDKKEVTLAEVINNSVPROYFEETRCRD 181
OY 62 SNPEVSGRCIDSKHNSYCTTHTFEVKALTTDEKQAMRFIRIDTACVLSKRAVR 120
DB 182 PNPDVSGRCIDSKHNSYCTTHTFEVKALTTDEKQAMRFIRIDTACVLSKRAVR 240

RESULT 6

ID 091XB4 PRELIMINARY; PRT; 294 AA.
AC 091XB4;
DT 01-DEC-2001 (Tremblrel. 19, Created)
DT 01-DEC-2001 (Tremblrel. 19, last sequence update)
DT 01-JUN-2002 (Tremblrel. 21, last annotation update)
DE Similar to nerve growth factor, beta.
GN NGFB.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
RN NCBL_TaxID=10090;
[1]
RP SEQUENCE FROM N.A.
RC TISSUE-SALIVARY GLAND;
RA Strausberg R.;
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; BC011123; AAH11123.1; -
DR MGD; MGI:97321; NGFB.
DR InterPro: IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR PROSITE; PS00248; NGF_1; UNKNOWN_1.
DR PROSITE; PS50270; NGF_2; 1.
SQ SEQUENCE 294 AA; 32326 MW; 9EE7402DAC899229 CRC64;

Query Match 88.4%; Score 577; DB 11; Length 294;
Best Local Similarity 100.0%; Pred. No. 9e-58;
Matches 107; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 SSTRPVFMGEFSVCSVSWVGDKTTATDIDKKEVTLAEVINNSVPROYFEETRCRA 61
DB 188 SSTRPVFMGEFSVCSVSWVGDKTTATDIDKKEVTLAEVINNSVPROYFEETRCRA 247

OY 62 SNPEVSGRCIDSKHNSYCTTHTFEVKALTTDEKQAMRFIRIDTA 108
DB 248 SNPEVSGRCIDSKHNSYCTTHTFEVKALTTDEKQAMRFIRIDTA 294

RESULT 7

ID 096P60 PRELIMINARY; PRT; 241 AA.
AC 096P60;
DT 01-DEC-2001 (Tremblrel. 19, Created)
DT 01-DEC-2001 (Tremblrel. 19, last sequence update)
DT 01-MAR-2002 (Tremblrel. 20, last annotation update)
DE Nerve growth factor beta.
GN NGFB.
OS Homo sapiens (human).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
RN NCBL_TaxID=9606;
[1]
RP SEQUENCE FROM N.A.
RA Zhang Y., Zhang B., Zhou Y., Peng X., Yuan J., Qiang B.;
RL Submitted (AUG-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF411526; AAL05874.1; -
DR InterPro: IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR PROSITE; PS00248; NGF_1; UNKNOWN_1.
DR PROSITE; PS50270; NGF_2; 1.
SQ SEQUENCE 241 AA; 26964 MW; 745216485C21E558 CRC64;

Query Match 88.2%; Score 576; DB 4; Length 241;
Best Local Similarity 88.2%; Pred. No. 9.2e-58;
Matches 105; Conservative 6; Mismatches 8; Indels 0; Gaps 0;

OY 2 SSTRPVFMGEFSVCSVSWVGDKTTATDIDKKEVTLAEVINNSVPROYFEETRCRA 61
DB 122 SSSHPIFHGEFSVCSVSWVGDKTTATDIDKKEVTLAEVINNSVPROYFEETRCRD 181
OY 62 SNPEVSGRCIDSKHNSYCTTHTFEVKALTTDEKQAMRFIRIDTACVLSKRAVR 120
DB 182 PNPDVSGRCIDSKHNSYCTTHTFEVKALTTDEKQAMRFIRIDTACVLSKRAVR 240

RESULT 8

ID 09N183 PRELIMINARY; PRT; 217 AA.
AC 09N183;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, last annotation update)
DE Beta nerve growth factor (Fragment).
OS Macaca fuscata (Japanese macaque).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheciidae;
OX NCBL_TaxID=9542;
[1]
RN SEQUENCE FROM N.A.
RP TISSUE-BLOOD;
RC MEDLINE-99270338; PubMed-10340513;
RX Okuno H., Tokuyama W., Li Y.X., Hashimoto T., Miyashita Y.;
RA "Quantitative evaluation of neurotrophin and trk mRNA expression in
RT visual and limbic areas along the occipito-temporo-hippocampal pathway
in adult macaque monkeys.";
RL J. Comp. Neurol. 408:378-398(1999).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE-BLOOD;
RA Okuno H., Tokuyama W., Li Y.X., Hashimoto T., Miyashita Y.;
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF222682; AAF33790.1; -
DR HSSP; P01139; 1BET.
DR InterPro: IPR002072; NGF.

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DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF; 1.
DR PRODOM; PR002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
FT NON_TER 1
FT NON_TER 1
SQ SEQUENCE 217 AA; 24240 MW; 36A5A2D1DFC08D5C CRC64;

Query Match 79.9%; Score 522; DB 6; Length 217;
Best Local Similarity 89.6%; Pred. No. 1.2e-51;
Matches 95; Conservative 4; Mismatches 7; Indels 0; Gaps 0;

OY 2 SETHVFHMGERSVCDSSVWVGDKTTATDIDKGEVTLAEVNNINSVPROFEETKCR 61
DB 112 SSSHFIRHGERSVCDSSVWVGDKTTATDIDKGEVTLAEVNNINSVPROFEETKCR 171
OY 62 SNPVESGCRGIDSKHMNSYCTTHTFVKALTTDEKQAMRFIRIDT 107
DB 172 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMGKQAMRFIRIDT 217

RESULT 9
O90W38 PRELIMINARY; PRT; 241 AA.
ID O90W38
AC O90W38
DT 01-DEC-2001 (TREMBLrel. 19, Created)
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT 01-MAR-2002 (TREMBLrel. 20, Last annotation update)
DE Putative neurotrophic growth factor.
GN NGF.
OS Bothrops jararacusu (Jararacusu).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidodonta; Squamata; Scleroglossa; Serpentes; Colubroides;
OC Viperidae; Crotalinae; Bothrops.
OX NCBI_TaxID=8726;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=VENOM GLAND;
RA Kashima S., Pereira J.O., Astolfi Filho S., Soares A.M.,
RA Cluttre A.C.O., Giglio J.R., Franca S.C.;
RT "Molecular cloning and cDNA sequence of a nerve growth factor
RT precursor from Bothrops jararacusu venomous gland.";
RL Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY007318; AAC12169.1; -.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR PROSITE; PS00248; NGF_1; UNKNOWN_1.
DR PROSITE; PS50270; NGF_2; 1.
SQ SEQUENCE 241 AA; 27161 MW; AC57F72AA6531A8F CRC64;

Query Match 73.2%; Score 478; DB 13; Length 241;
Best Local Similarity 74.1%; Pred. No. 1.5e-46;
Matches 83; Conservative 17; Mismatches 12; Indels 0; Gaps 0;

OY 5 HPVFHMGERSVCDSSVWVGDKTTATDIDKGEVTLAEVNNINSVPROFEETKCRASNP 64
DB 125 HPVHNRGERSVCDSSVWVWANKTTATDIDRGNVTVAVDINNINNYKQFFETKCRNP 184
OY 65 VESGCRGIDSKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSRK 116
DB 185 VPTGCRGIDARHMNSYCTTHTFVKALTMGKQAMRFIRIDTACVLSRK 236

RESULT 10
O9DEZ9 PRELIMINARY; PRT; 241 AA.
ID O9DEZ9
AC O9DEZ9
DT 01-MAR-2001 (TREMBLrel. 16, Created)
DT 01-MAR-2001 (TREMBLrel. 16, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
```

```
DE Nerve growth factor.
OS Crotalus durissus terrificus (South American rattlesnake).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidodonta; Squamata; Scleroglossa; Serpentes; Colubroides;
OC Viperidae; Crotalinae; Crotalus.
OX NCBI_TaxID=8732;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=VENOM GLAND;
RA Hayashi M.A.F., Radts-Baptista G., Yamane T., Camargo A.C.M.;
RT "Cloning and sequence of a cDNA coding for a rattlesnake (Crotalus
RT durissus terrificus) nerve growth factor.";
RL Submitted (SEP-2000) to the EMBL/GenBank/DBJ databases.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
SQ SEQUENCE 241 AA; 27118 MW; 4A261F42C5D6FF3F CRC64;

Query Match 72.1%; Score 471; DB 13; Length 241;
Best Local Similarity 73.2%; Pred. No. 9.4e-46;
Matches 82; Conservative 17; Mismatches 13; Indels 0; Gaps 0;

OY 5 HPVFHMGERSVCDSSVWVGDKTTATDIDKGEVTLAEVNNINSVPROFEETKCRASNP 64
DB 125 HPVHNRGERSVCDSSVWVWANKTTATDIDRGNLTVAVDINNINNYKQFFETKCRNP 184
OY 65 VESGCRGIDSKHMNSYCTTHTFVKALTTDEKQAMRFIRIDTACVLSRK 116
DB 185 VPTGCRGIDARHMNSYCTTHTFVKALTMGKQAMRFIRIDTACVLSRK 236

RESULT 11
O9TTC3 PRELIMINARY; PRT; 87 AA.
ID O9TTC3
AC O9TTC3
DT 01-MAY-2000 (TREMBLrel. 13, Created)
DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)
DT 01-JUN-2001 (TREMBLrel. 17, Last annotation update)
DE Beta nerve growth factor (Fragment).
GN NGF.
OS Cervus elaphus scoticus.
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoides;
OC Cervidae; Cervinae; Cervus.
OX NCBI_TaxID=109627;
RN [1]
RP SEQUENCE FROM N.A.
RA Robertson T.M., Stanton J.L., Clark D.E., Sheard P.W., Harris A.J.,
RA Suttie J.M.;
RT "NGF expression in Antler.";
RL Submitted (APR-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF145043; AAF17235.1; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
FT NON_TER 1
FT NON_TER 1
SQ SEQUENCE 87 AA; 9876 MW; 17EE06E49AF7A0A4 CRC64;

Query Match 64.9%; Score 424; DB 6; Length 87;
Best Local Similarity 88.5%; Pred. No. 6.5e-41;
Matches 77; Conservative 4; Mismatches 6; Indels 0; Gaps 0;
```



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OY 18 SVSVWGDXTTATDIDKKEVTYLAEVNINNSVPROYFETKCRASNPVESCGRGIDSKHW 77
DB 1 SVSVWGDXTTATDIDKKEVTYLAEVNINNSVPROYFETKCRDPNPVGGCRGIDAKHW 60
OY 78 NSYCTTHTTFVKALTTDEKQAMRFIR 104
DB 61 NSYCTTHTTFVKALTTMDOKQAMRFIR 87

RESULT 12
O9P224 PRELIMINARY; PRT; 87 AA.
ID O9P224:
AC O9P224:
DT 01-OCT-2000 (TREMblrel. 15, Created)
DT 01-OCT-2000 (TREMblrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMblrel. 19, Last annotation update)
DE Truncated beta nerve growth factor (Fragment).
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95236507; Pubmed=7720122;
RA Li Y., Huang B., Cai L.;
RT "Amplification, cloning and sequencing of beta nerve growth factor
RT gene in the Chinese population.";
RL Chung-Kuo I Hsueh Ko Hsueh Yuan Hsueh Pao 16:334-338(1994).
DR EMBL; S76884; AAB34114.2; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS50270; NGF_2; 1.
FT NON_TER 1
SQ SEQUENCE 87 AA; 9729 MW; 45E9E27388FDEE27 CRC64;

Query Match 63.78; Score 416; DB 4; Length 87;
Best Local Similarity 85.18; Pred. No. 5.3e-40;
Matches 74; Conservative 4; Mismatches 9; Indels 0; Gaps 0;

OY 2 SSTPVPFMGEFVSVDVSVWGDXTTATDIDKKEVTYLAEVNINNSVPROYFETKCR 61
DB 1 SSTPVPFMGEFVSVDVSVWGDXTTATDIDKKEVTYLAEVNINNSVPROYFETKCRD 60
OY 62 SNPVESGCRGIDSKHNSYCTTHTFEV 88
DB 61 PNPVDSGCRGIDSKHNSYCTTHTFEV 87

RESULT 13
O91988 PRELIMINARY; PRT; 286 AA.
ID O91988:
AC O91988:
DT 01-NOV-1996 (TREMblrel. 01, Created)
DT 01-NOV-1996 (TREMblrel. 01, Last sequence update)
DT 01-JUN-2001 (TREMblrel. 17, Last annotation update)
DE Neurotrophin-6 precursor.
OS Xiphophorus maculatus (Southern platyfish), and
OS Xiphophorus helleri.
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC Cyprinodontiformes; Poeciliidae; Xiphophorus.
OX NCBI_TaxID=8083; 8084;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95059457; Pubmed=7969471;
RA Gotz R., Koster R., Winkler C., Raulf F., Lottspeich F., Scharlt M.,
RA Thoenen H.;

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RT "Neurotrophin-6 is a new member of the nerve growth factor family.";
RL Nature 372:266-269(1994).
DR EMBL; L369425; AAA61923.1; -.
DR EMBL; L36325; AAA61922.1; -.
DR EMBL; L36326; AAA61921.1; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW signal.
FT SIGNAL 1
FT CHAIN 143
SQ SEQUENCE 286 AA; 31424 MW; 5607DBA6679E12D CRC64;

Query Match 53.28; Score 347.5; DB 13; Length 286;
Best Local Similarity 50.08; Pred. No. 1.6e-31;
Matches 67; Conservative 18; Mismatches 26; Indels 23; Gaps 2;

OY 9 HMGEFVSVDVSVWGDXTTATDIDKKEVTYLAEVNINNSVPROYFETKCR----- 61
DB 150 HGEFVSVDVSVWGDXTTATDIDKKEVTYLAEVNINNSVPROYFETKCRSPTHRSSG 208
OY 62 -----SNPVESGCRGIDSKHNSYCTTHTFEVKAALTTDEKQAMRFIRID 106
DB 209 IVIGRSGRGKGGKSKTNSGCRGIDSKHNSYCTTHTFEVKAALTTDEKQAMRFIRIN 268
OY 107 TACVCLSLKATRR 120
DB 269 AACVCLSLRNSMSR 282

RESULT 14
O9N182 PRELIMINARY; PRT; 241 AA.
ID O9N182:
AC O9N182:
DT 01-OCT-2000 (TREMblrel. 15, Created)
DT 01-OCT-2000 (TREMblrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMblrel. 19, Last annotation update)
DE Neurotrophin-3 (Fragment).
OS Macaca fuscata (Japanese macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecoidea; Macaca.
OX NCBI_TaxID=9542;
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE=Blood;
RX MEDLINE=99270338; Pubmed=10340513;
RA Okuno H., Tokuyama W., Li Y.X., Hashimoto T., Miyashita Y.;
RT "Quantitative evaluation of neurotrophin and trk mRNA expression in
RT visual and limbic areas along the occipito-temporo-hippocampal pathway
RT in adult macaque monkeys.";
RL J. Comp. Neurol. 408:378-398(1999).
RN [2]
RP SEQUENCE FROM N.A.
RX TISSUE=Blood;
RA Hashimoto T., Okuno H., Tokuyama W., Li Y.X., Miyashita Y.;
RT "Expression of brain-derived neurotrophic factor, neurotrophin-3 and
RT their receptor messenger RNAs in monkey rhinal cortex.";
RL Neuroscience 0:0-0(2000).
DR EMBL; AF222683; AAF33791.1; -.
DR HSSP; P20783; 1B8K.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.

```

FT NON_TER 1 1
FT NON_TER 241 241
SQ SEQUENCE 241 AA; 27803 MW; AB95E457C7B07113 CRC64;

Query Match 51.4%; Score 335.5; DB 6; Length 241;
Best Local Similarity 58.0%; Pred. No. 3e-30;
Matches 58; Conservative 20; Mismatches 21; Indels 1; Gaps 1;

OY 9 HMGFSVCDSSVWVGDTATIDIKGEVTVLAEVNINSVFRQYFETKCRASNPVSG 68
DB 142 HRGEVSVCDSSSLWTKDSALIDIGHQVTVLGEIKTGNPSVKQYFETKCRARPVKNG 201

OY 69 CRGIDSKHNSCYTTHFEVKALTTD-EKQAMRIRIDT 107
DB 202 CRGIDKHMNSOCTTQTYVRALTSENNKLVGMWRIRIDT 241

RESULT 15

O9CYL3 PRELIMINARY; PRT; 153 AA.
AC O9CYL3;
DT 01-JUN-2001 (TREMBlrel. 17, Created)
DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE Brain derived neurotrophic factor.
GN BDNF.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;

RP SEQUENCE FROM N.A.
RX STRAIN=C57BL/6J; TISSUE=EMBRYO;
RC MEDLINE=21085660; PubMed=11217851;
RA Akaiwa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Fleischmann W., Gaasterland T., Gissi C., Kling B., Kochiwa H.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schiml L.M., Staudl F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brownstein M.J., Bull C., Fletcher C., Fujita M., Gariboldi M.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA Morone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seta Y., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyooka K., Wang K.H., Wetz C., Whitaker C., Wilming L.,
RA Wyszewski-Boris A., Yoshida K., Hasegawa Y., Kawai H., Kohlsuk S.,
RA Hayashizaki Y.;
RT "Functional annotation of a full-length mouse cDNA collection.";
RL Nature 409:685-690(2001).
DR EMBL: AK017559; BAB30805.1; -.
DR HSSP: P23560; 1B8M.
DR MGD: MGI:88145; Bdnf.
DR InterPro: IPR002072; NGF.
DR Pfam: PR00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF; 1.
DR PROSITE: PS50270; NGF; 2; 1.
SQ SEQUENCE 153 AA; 17519 MW; CABEB8944CE5B37 CRC64;

Query Match 49.8%; Score 325.5; DB 11; Length 153;
Best Local Similarity 54.5%; Pred. No. 2.4e-29;
Matches 61; Conservative 16; Mismatches 32; Indels 3; Gaps 2;

OY 11 GEFVSVCDSSVWVGDTATIDIKGEVTVLAEVNINSVFRQYFETKCRASNPVSG 68
DB 42 GELSVCDSSISEWTVADKTAADMGGTVLVEKVPVSKGQLKQYFETKCRNPMGYTKRG 101

OY 69 CRGIDSKHNSCYTTHFEVKALTTD-EKQAMRIRIDTACVCLSRKATR 119
DB 102 CRGIDKHMNSOCTTQTYVRALTSENNKLVGMWRIRIDTSCVCLTKRGR 153

Search completed: December 2, 2002, 15:12:01
Job time : 18.7245 secs

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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 : Search time 8.36928 Seconds
(without alignments)
425.386 Million cell updates/sec

Title: US-10-072-681-3

Perfect score: 653

Sequence: 1 PPSSTHVFHMGESFVCDSDVS.....FIRIDRACVLSRKATRRG 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
3: /cgn2_6/ptodata/1/1aa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/1aa/6A_COMB.pep:*
5: /cgn2_6/ptodata/1/1aa/6A_COMB.pep:*
6: /cgn2_6/ptodata/1/1aa/backfile1.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	653	100.0	121	4 US-09-675-503-3	Sequence 3, App1
2	646	98.9	120	1 US-08-440-049-1	Sequence 1, App1
3	646	98.9	120	2 US-08-441-513A-1	Sequence 1, App1
4	646	98.9	120	3 US-08-970-865-3	Sequence 3, App1
5	646	98.9	120	4 US-09-363-573-3	Sequence 1, App1
6	646	98.9	120	5 PCT-US95-06918-1	Sequence 1, App1
7	618	94.6	120	1 US-07-979-630-1	Sequence 1, App1
8	618	94.6	120	5 PCT-US93-11292-1	Sequence 1, App1
9	594	91.0	121	4 US-09-675-503-2	Sequence 2, App1
10	587	89.9	120	3 US-08-970-865-2	Sequence 2, App1
11	587	89.9	120	4 US-09-363-573-2	Sequence 2, App1
12	584	89.4	120	1 US-08-440-049-3	Sequence 3, App1
13	584	89.4	120	2 US-08-441-513A-3	Sequence 3, App1
14	584	89.4	120	3 US-08-581-662-31	Sequence 3, App1
15	584	89.4	120	4 US-08-845-541B-1	Sequence 1, App1
16	584	89.4	120	4 US-09-066-065A-1	Sequence 1, App1
17	584	89.4	120	4 US-09-447-356-1	Sequence 1, App1
18	584	89.4	120	4 US-09-664-295-31	Sequence 1, App1
19	584	89.4	120	5 PCT-US95-06918-3	Sequence 3, App1
20	584	89.4	121	1 US-08-266-080B-4	Sequence 4, App1
21	584	89.4	241	1 US-08-451-947-5	Sequence 5, App1
22	584	89.4	241	2 US-08-424-826A-5	Sequence 5, App1
23	584	89.4	241	2 US-08-595-043A-75	Sequence 75, App1
24	584	89.4	241	3 US-08-970-865-1	Sequence 1, App1
25	584	89.4	241	3 US-08-928-694-5	Sequence 5, App1
26	584	89.4	241	4 US-09-363-573-1	Sequence 1, App1
27	584	89.4	241	4 US-09-447-356-3	Sequence 3, App1

28	584	89.4	241	5 PCT-US91-06950-5	Sequence 5, App1
29	584	89.4	241	5 PCT-US95-05423-4	Sequence 4, App1
30	584	89.4	242	4 US-09-675-503-1	Sequence 1, App1
31	579	88.7	119	3 US-08-753-642-2	Sequence 2, App1
32	579	88.7	153	4 US-09-675-922-2	Sequence 2, App1
33	579	88.7	157	4 US-09-675-922-2	Sequence 4, App1
34	579	88.7	163	4 US-09-675-922-6	Sequence 6, App1
35	579	88.7	167	4 US-09-675-922-8	Sequence 8, App1
36	570	87.3	120	4 US-08-845-541B-3	Sequence 3, App1
37	570	87.3	120	4 US-09-066-065A-3	Sequence 3, App1
38	567	86.8	120	4 US-08-845-541B-4	Sequence 4, App1
39	567	86.8	120	4 US-09-066-065A-4	Sequence 4, App1
40	562	86.1	120	4 US-08-845-541B-12	Sequence 12, App1
41	562	86.1	120	4 US-09-066-065A-12	Sequence 12, App1
42	561	85.9	120	4 US-08-845-541B-17	Sequence 17, App1
43	561	85.9	120	4 US-08-845-541B-20	Sequence 20, App1
44	561	85.9	120	4 US-09-066-065A-17	Sequence 17, App1
45	561	85.9	120	4 US-09-066-065A-20	Sequence 20, App1

ALIGNMENTS

```
RESULT 1
US-09-675-503-3
: Sequence 3, Application US/09675503
: Patent No. 6423831
: GENERAL INFORMATION:
: APPLICANT: Burton, Louis E.
: APPLICANT: Schmelzer, Charles H.
: APPLICANT: Beck, Joanne T.
: TITLE OF INVENTION: ISOLATION OF NEUROTROPHINS FROM A
: TITLE OF INVENTION: MIXTURE CONTAINING OTHER PROTEINS AND NEUROTROPHIN VARIANTS
: FILE REFERENCE: GENEPT. 037C2
: CURRENT APPLICATION NUMBER: US/09/675,503
: CURRENT FILING DATE: 2000-09-29
: PRIOR APPLICATION NUMBER: 60/030838
: PRIOR FILING DATE: 1996-11-15
: PRIOR APPLICATION NUMBER: 60/047855
: PRIOR FILING DATE: 1997-05-29
: PRIOR APPLICATION NUMBER: 08/970865
: PRIOR FILING DATE: 1997-11-14
: PRIOR APPLICATION NUMBER: 09/363573
: PRIOR FILING DATE: 1999-07-29
: NUMBER OF SEQ ID NOS: 6
: SOFTWARE: FastSeq for Windows Version 4.0
: SEQ ID NO 3
: LENGTH: 121
: TYPE: PRT
: ORGANISM: mouse
US-09-675-503-3

Query Match      100.0%; Score 653; DB 4; Length 121;
Best Local Similarity 100.0%; Pred. No. 2e73;
Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PPSSTHVFHMGESFVCDSDVGDKTATDIDKEKVTYLAENVINNSVFQYFEKCR 60
   |||
Db 1 PPSSTHVFHMGESFVCDSDVGDKTATDIDKEKVTYLAENVINNSVFQYFEKCR 60

QY 61 ASNVEGCRGIDSKHNSVCTTHTFVKALTPQKAAMFIRIDRACVLSRKATRR 120
   |||
Db 61 ASNVEGCRGIDSKHNSVCTTHTFVKALTPQKAAMFIRIDRACVLSRKATRR 120

QY 121 G 121
   |
Db 121 G 121

RESULT 2
US-08-440-049-1
: Sequence 1, Application US/08440049
```

```
Patent No. 5728803
GENERAL INFORMATION:
APPLICANT: Urfert, Roman
APPLICANT: Presta, Leonard G.
APPLICANT: Winslow, John W.
TITLE OF INVENTION: PANTROPIC NEUTROTROPHIC FACTORS
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESS: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPacIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/440,049
FILING DATE: 12-May-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/253937
FILING DATE: 03-JUN-1994
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0905C2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 120 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-440-049-1

Query Match          98.9%; Score 646; DB 1: Length 120;
Best Local Similarity 100.0%; Pred. No. 1.5e-72;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 STHPVFMHGEFVCDVSVWVGDKTTATDIDKGEVTVLAEVNINSVFRQYFEETKRA 61
DB 1 STHPVFMHGEFVCDVSVWVGDKTTATDIDKGEVTVLAEVNINSVFRQYFEETKRA 60
QY 62 SNPVESGCGIDSKHWNSTCTTHFFVKALTTDEKQAMRFIRIDTACVLSRKATRRG 121
DB 61 SNPVESGCGIDSKHWNSTCTTHFFVKALTTDEKQAMRFIRIDTACVLSRKATRRG 120

RESULT 3
US-08-441-513A-1
Sequence 1, Application US/08441513A
Patent No. 5981480
GENERAL INFORMATION:
APPLICANT: Urfert, Roman
APPLICANT: Presta, Leonard G.
APPLICANT: Winslow, John W.
TITLE OF INVENTION: Pantropic Neutrotrophic Factors
NUMBER OF SEQUENCES: 20
CORRESPONDENCE ADDRESS:
ADDRESS: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPacIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/441,513A
FILING DATE: 15-May-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/253937
FILING DATE: 03-JUN-1994
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, PhD., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0905C3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 120 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-441-513A-1

Query Match          98.9%; Score 646; DB 2: Length 120;
Best Local Similarity 100.0%; Pred. No. 1.5e-72;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 STHPVFMHGEFVCDVSVWVGDKTTATDIDKGEVTVLAEVNINSVFRQYFEETKRA 61
DB 1 STHPVFMHGEFVCDVSVWVGDKTTATDIDKGEVTVLAEVNINSVFRQYFEETKRA 60
QY 62 SNPVESGCGIDSKHWNSTCTTHFFVKALTTDEKQAMRFIRIDTACVLSRKATRRG 121
DB 61 SNPVESGCGIDSKHWNSTCTTHFFVKALTTDEKQAMRFIRIDTACVLSRKATRRG 120

RESULT 4
US-08-970-865-3
Sequence 3, Application US/08970865
Patent No. 6005081
GENERAL INFORMATION:
APPLICANT: Louis E. Burton, Charles H. Schmelzer, Joanne T. Beck
TITLE OF INVENTION: Purification of NGF
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESS: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPacIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/970,865
FILING DATE: 14-No. 6005081-1997
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/030838
FILING DATE: 11/15/1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/047855
FILING DATE: 5/29/1997
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, PhD., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P1063R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
```

TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 120 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
US-08-970-865-3

Query Match 98.9%; Score 646; DB 3; Length 120;
Best Local Similarity 100.0%; Pred. No. 1.5e-72;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 SSTRPVHMGESVCDSSVWVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 61
Db 1 SSTRPVHMGESVCDSSVWVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 60
Qy 62 SNPVESSCGRIGDSKHMNSYCTTHTFVKALTTDEKQAAAMRIRIDTACVCLSKKATRRG 121
Db 61 SNPVESSCGRIGDSKHMNSYCTTHTFVKALTTDEKQAAAMRIRIDTACVCLSKKATRRG 120

RESULT 5
US-09-363-573-3
; Sequence 3, Application US/09363573
; Patent No. 6184360

GENERAL INFORMATION:

APPLICANT: Louis E. Burton, Charles H. Schmeizler, Joanne T. Beck

TITLE OF INVENTION: Purification of NGF

NUMBER OF SEQUENCES: 6

CORRESPONDENCE ADDRESS:

ADDRESSEE: Genentech, Inc.

STREET: 1 DNA Way

CITY: South San Francisco

STATE: California

COUNTRY: USA

ZIP: 94080

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinPatIn (Genentech)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/363,573

FILING DATE:

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/970,865

FILING DATE: 14-No. 6184360-1997

APPLICATION NUMBER: 60/030838

FILING DATE: 11/15/1996

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 60/047855

FILING DATE: 5/29/1997

ATTORNEY/AGENT INFORMATION:

NAME: Torchia, Ph.D., Timothy E.

REGISTRATION NUMBER: 36,700

REFERENCE/DOCKET NUMBER: P1063R2

TELECOMMUNICATION INFORMATION:

TELEPHONE: 650/225-8674

TELEFAX: 650/952-9881

INFORMATION FOR SEQ ID NO: 3:

SEQUENCE CHARACTERISTICS:

LENGTH: 120 amino acids

TYPE: Amino Acid

TOPOLOGY: Linear

US-09-363-573-3

Query Match 98.9%; Score 646; DB 4; Length 120;
Best Local Similarity 100.0%; Pred. No. 1.5e-72;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 2 SSTRPVHMGESVCDSSVWVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 61
Db 1 SSTRPVHMGESVCDSSVWVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 60

Db 1 SSTRPVHMGESVCDSSVWVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 60
Qy 62 SNPVESSCGRIGDSKHMNSYCTTHTFVKALTTDEKQAAAMRIRIDTACVCLSKKATRRG 121
Db 61 SNPVESSCGRIGDSKHMNSYCTTHTFVKALTTDEKQAAAMRIRIDTACVCLSKKATRRG 120

RESULT 6
PCT-US95-06918-1

; Sequence 1, Application PC/TUS9506918

GENERAL INFORMATION:

APPLICANT: Genentech, Inc.

TITLE OF INVENTION: PANTROPIC NEUROTROPHIC FACTORS

NUMBER OF SEQUENCES: 8

CORRESPONDENCE ADDRESS:

ADDRESSEE: Genentech, Inc.

STREET: 460 Point San Bruno Blvd

CITY: South San Francisco

STATE: California

COUNTRY: USA

ZIP: 94080

COMPUTER READABLE FORM:

MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: patin (Genentech)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: PCT/US95/06918

FILING DATE:

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER:

FILING DATE:

ATTORNEY/AGENT INFORMATION:

NAME: Torchia, Timothy E.

REGISTRATION NUMBER: 36,700

REFERENCE/DOCKET NUMBER: 905PCT

TELECOMMUNICATION INFORMATION:

TELEPHONE: 415/225-8674

TELEFAX: 415/952-9881

INFORMATION FOR SEQ ID NO: 1:

SEQUENCE CHARACTERISTICS:

LENGTH: 120 amino acids

TYPE: amino acid

TOPOLOGY: Linear

PCT-US95-06918-1

Query Match 98.9%; Score 646; DB 5; Length 120;
Best Local Similarity 100.0%; Pred. No. 1.5e-72;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 SSTRPVHMGESVCDSSVWVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 61
Db 1 SSTRPVHMGESVCDSSVWVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 60
Qy 62 SNPVESSCGRIGDSKHMNSYCTTHTFVKALTTDEKQAAAMRIRIDTACVCLSKKATRRG 121
Db 61 SNPVESSCGRIGDSKHMNSYCTTHTFVKALTTDEKQAAAMRIRIDTACVCLSKKATRRG 120

RESULT 7

US-07-979-630-1

; Sequence 1, Application US/07979630

GENERAL INFORMATION:

APPLICANT: Persson, et al.

TITLE OF INVENTION: Multifunctional Neurotrophic Factors

NUMBER OF SEQUENCES: 3

CORRESPONDENCE ADDRESS:

ADDRESSEE: Regeneron Pharmaceuticals, Inc.

STREET: 777 Old Saw Mill River Road

CITY: Tarrytown

STATE: New York
COUNTRY: U.S.A.
ZIP: 10591
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/979,630
FILING DATE: 20-NOV-1992
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/847,369
FILING DATE: 06-MAR-1992
NAME:
ATTORNEY/AGENT INFORMATION:
NAME: Kempler Ph.D., Gail M.
REGISTRATION NUMBER: 32,143
REFERENCE/DOCKET NUMBER: REG 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: 914-347-7000
TELEFAX: 914-347-2113
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 120 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
US-07-979-630-1

Query Match 94.6%; Score 618; DB 1; Length 120;
Best Local Similarity 94.2%; Pred. No. 4.4e-69;
Matches 113; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 2 SSTHPVFHMGFEVSCDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQFFETKCR 61
DB 1 SSTHPVFHMGFEVSCDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQFFETKCR 60
QY 62 SNPVSQCGRGIDSKHMSNYCTTHTFVKALTTDEKQAMRFIRIDTACVLSRKATRG 121
DB 61 PNPVSQCGRGIDSKHMSNYCTTHTFVKALTTDDKQAMRFIRIDTACVLSRKATRG 120

RESULT 8
PCT-US93-11292-1
Sequence 1, Application PC/TUS9311292
GENERAL INFORMATION:
APPLICANT: Persson, et al.
TITLE OF INVENTION: Multifunctional Neurotrophic Factors
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Regeneron Pharmaceuticals, Inc.
STREET: 777 Old Saw Mill River Road
CITY: Tarrytown
STATE: New York
COUNTRY: U.S.A.
ZIP: 10591
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/11292
FILING DATE: 19-NOV-1993
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/847,369
FILING DATE: 06-MAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: Kempler Ph.D., Gail M.

REGISTRATION NUMBER: 32,143
REFERENCE/DOCKET NUMBER: REG 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: 914-347-7000
TELEFAX: 914-347-2113
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 120 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
PCT-US93-11292-1

Query Match 94.6%; Score 618; DB 5; Length 120;
Best Local Similarity 94.2%; Pred. No. 4.4e-69;
Matches 113; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 2 SSTHPVFHMGFEVSCDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQFFETKCR 61
DB 1 SSTHPVFHMGFEVSCDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQFFETKCR 60
QY 62 SNPVSQCGRGIDSKHMSNYCTTHTFVKALTTDEKQAMRFIRIDTACVLSRKATRG 121
DB 61 PNPVSQCGRGIDSKHMSNYCTTHTFVKALTTDDKQAMRFIRIDTACVLSRKATRG 120

RESULT 9
US-09-675-503-2
Sequence 2, Application US/09675503
Patent No. 6423831
GENERAL INFORMATION:
APPLICANT: Burton, Louis E.
APPLICANT: Schmelzer, Charles H.
TITLE OF INVENTION: ISOLATION OF NEUROTROPHINS FROM A
TITLE OF INVENTION: MIXTURE CONTAINING OTHER PROTEINS AND NEUROTROPHIN VARIANTS
TITLE OF INVENTION: USING HYDROPHOBIC INTERACTION CHROMATOGRAPHY
FILE REFERENCE: GENENT 037C2
CURRENT FILING DATE: 2000-09-29
PRIOR APPLICATION NUMBER: 60/030838
PRIOR FILING DATE: 1996-11-15
PRIOR APPLICATION NUMBER: 60/047855
PRIOR FILING DATE: 1997-05-29
PRIOR APPLICATION NUMBER: 08/970865
PRIOR FILING DATE: 1997-11-14
PRIOR APPLICATION NUMBER: 09/363573
PRIOR FILING DATE: 1999-07-29
NUMBER OF SEQ ID NOS: 6
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 121
TYPE: PRT
ORGANISM: Homo sapien
US-09-675-503-2

Query Match 91.0%; Score 594; DB 4; Length 121;
Best Local Similarity 90.8%; Pred. No. 4.2e-66;
Matches 109; Conservative 3; Mismatches 8; Indels 0; Gaps 0;

QY 1 PSTHPVFHMGFEVSCDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQFFETKCR 60
DB 1 PSSSHPIFRGFEVSCDSVWVGDKTTATDIDKGEVTVLAEVNINNSVFRQFFETKCR 60
QY 61 ASNPVSQCGRGIDSKHMSNYCTTHTFVKALTTDEKQAMRFIRIDTACVLSRKATRG 120
DB 61 DNPVSQCGRGIDSKHMSNYCTTHTFVKALTTDDKQAMRFIRIDTACVLSRKATRG 120

RESULT 10
US-08-970-865-2
Sequence 2, Application US/08970865

```
Patent No. 6005081
GENERAL INFORMATION:
APPLICANT: Louis E. Burton, Charles H. Schmelzer, Joanne T. Beck
TITLE OF INVENTION: Purification of NGF
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/970,865
FILING DATE: 14-No. 6005081-1997
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/030838
FILING DATE: 11/15/1996
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 60/047855
FILING DATE: 5/29/1997
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Phd., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P1063R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 120 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-970-865-2

Query Match      89.9%; Score 587; DB 3; Length 120;
Best Local Similarity 90.8%; Pred. No. 3e-65;
Matches 108; Conservative 3; Mismatches 8; Indels 0; Gaps 0;

QY 2 SSSHPRHMEFSVCSVSWGDKTATDIDKKEVYLAEVNINNSVFQYFFETRCRA 61
DB 1 SSSHPRHMEFSVCSVSWGDKTATDIDKKEVYLAEVNINNSVFQYFFETRCRD 60
QY 62 SNPVESGRCIDSKHNMNSCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKATRR 120
DB 61 PNPVDSGRCIDSKHNMNSCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKAVRR 119

RESULT 11
US-09-363-573-2
Sequence 2, Application US/09363573
Patent No. 6184360
GENERAL INFORMATION:
APPLICANT: Louis E. Burton, Charles H. Schmelzer, Joanne T. Beck
TITLE OF INVENTION: Purification of NGF
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
```

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SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/363,573
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/970,865
FILING DATE: 14-No. 6184360-1997
APPLICATION NUMBER: 60/030838
FILING DATE: 11/15/1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/047855
FILING DATE: 5/29/1997
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Phd., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P1063R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 120 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-09-363-573-2

Query Match      89.9%; Score 587; DB 4; Length 120;
Best Local Similarity 90.8%; Pred. No. 3e-65;
Matches 108; Conservative 3; Mismatches 8; Indels 0; Gaps 0;

QY 2 SSSHPRHMEFSVCSVSWGDKTATDIDKKEVYLAEVNINNSVFQYFFETRCRA 61
DB 1 SSSHPRHMEFSVCSVSWGDKTATDIDKKEVYLAEVNINNSVFQYFFETRCRD 60
QY 62 SNPVESGRCIDSKHNMNSCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKATRR 120
DB 61 PNPVDSGRCIDSKHNMNSCTTHTTFVKALTTDEKQAMRFIRIDTACVCLSKAVRR 119

RESULT 12
US-08-440-049-3
Sequence 3, Application US/08440049
Patent No. 5728803
GENERAL INFORMATION:
APPLICANT: Uifer, Roman
APPLICANT: Presta, Leonard G.
TITLE OF INVENTION: PANTROPIC NEUTROPHIC FACTORS
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/440,049
FILING DATE: 12-May-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/253937
FILING DATE: 03-JUN-1994
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0905C2
```

```
TELECOMMUNICATION INFORMATION:
:
: TELEPHONE: 415/225-8674
: TELEFAX: 415/952-9881
: TELEX: 910/371-7168
: INFORMATION FOR SEQ ID NO: 3:
: SEQUENCE CHARACTERISTICS:
:   LENGTH: 120 amino acids
:   TYPE: Amino Acid
:   TOPOLOGY: Linear
:
US-08-440-049-3

Query Match      89.4%; Score 584; DB 1; Length 120;
Best Local Similarity 89.9%; Pred. No. 7.2e-65;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

Oy 2 SSTRHVFHMGFEFVCDVSVMVWGDKTTATDIDKGEVTVLAEVNINNSVFOYFFETKCR 61
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 1 SSSHPHFHGRGFSVCDVSVMVWGDKTTATDIDKGEVTVLAEVNINNSVFOYFFETKCRD 60
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

Oy 62 SNPVESGCGIDSKHMNSYCTTHTFVKALTTDEKQAAARFIRIDTACVLSRKAATRR 120
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 61 PNPVDSGCGIDSKHMNSYCTTHTFVKALTTMDGKQAAARFIRIDTACVLSRKAATRR 119
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

RESULT 13
US-08-441-513A-3
: Sequence 3, Application US/08441513A
: Patent No. 5981480
: GENERAL INFORMATION:
:   APPLICANT: Ufer, Roman
:   APPLICANT: Presta, Leonard G.
:   APPLICANT: Winslow, John W.
:   TITLE OF INVENTION: Pantropic Neurotrophic Factors
:   NUMBER OF SEQUENCES: 20
:   CORRESPONDENCE ADDRESS:
:     ADDRESS: Genentech, Inc.
:     STREET: 1 DNA Way
:     CITY: South San Francisco
:     STATE: California
:     COUNTRY: USA
:     ZIP: 94080
: COMPUTER READABLE FORM:
:   MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
:   COMPUTER: IBM PC compatible
:   OPERATING SYSTEM: PC-DOS/MS-DOS
:   SOFTWARE: Winpatln (Genentech)
:   CURRENT APPLICATION DATA:
:     APPLICATION NUMBER: US/08/441,513A
:     FILING DATE: 15-May-1995
:   CLASSIFICATION: 435
:   PRIOR APPLICATION DATA:
:     APPLICATION NUMBER: 08/253937
:     FILING DATE: 03-JUN-1994
:   ATTORNEY/AGENT INFORMATION:
:     NAME: Torchia, PhD., Timothy E.
:     REGISTRATION NUMBER: 36,700
:     REFERENCE/DOCKET NUMBER: P0905C3
:     TELECOMMUNICATION INFORMATION:
:       TELEPHONE: 650/225-8674
:       TELEFAX: 650/952-9881
:   INFORMATION FOR SEQ ID NO: 3:
:     SEQUENCE CHARACTERISTICS:
:       LENGTH: 120 amino acids
:       TYPE: Amino Acid
:       TOPOLOGY: Linear
:
US-08-441-513A-3

Query Match      89.4%; Score 584; DB 2; Length 120;
Best Local Similarity 89.9%; Pred. No. 7.2e-65;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

Oy 2 SSTRHVFHMGFEFVCDVSVMVWGDKTTATDIDKGEVTVLAEVNINNSVFOYFFETKCR 61
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 1 SSSHPHFHGRGFSVCDVSVMVWGDKTTATDIDKGEVTVLAEVNINNSVFOYFFETKCR 61
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
```

```
Db 1 SSSHPHFHGRGFSVCDVSVMVWGDKTTATDIDKGEVTVLAEVNINNSVFOYFFETKCRD 60

Oy 62 SNPVESGCGIDSKHMNSYCTTHTFVKALTTDEKQAAARFIRIDTACVLSRKAATRR 120
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 61 PNPVDSGCGIDSKHMNSYCTTHTFVKALTTMDGKQAAARFIRIDTACVLSRKAATRR 119
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

RESULT 14
US-08-581-662-31
: Sequence 31, Application US/08581662
: Patent No. 6121235
: GENERAL INFORMATION:
:   APPLICANT: Geo. Mel-Olang
:   TITLE OF INVENTION: Treatment of Balance Impairments
:   FILE REFERENCE: P0981
:   CURRENT APPLICATION NUMBER: US/08/581,662
:   CURRENT FILING DATE: 1995-12-29
:   NUMBER OF SEQ ID NOS: 36
:   SEQ ID NO 31
:   LENGTH: 120
:   TYPE: PRT
:   ORGANISM: Homo sapiens
:
US-08-581-662-31

Query Match      89.4%; Score 584; DB 3; Length 120;
Best Local Similarity 89.9%; Pred. No. 7.2e-65;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

Oy 2 SSTRHVFHMGFEFVCDVSVMVWGDKTTATDIDKGEVTVLAEVNINNSVFOYFFETKCR 61
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 1 SSSHPHFHGRGFSVCDVSVMVWGDKTTATDIDKGEVTVLAEVNINNSVFOYFFETKCRD 60
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

Oy 62 SNPVESGCGIDSKHMNSYCTTHTFVKALTTDEKQAAARFIRIDTACVLSRKAATRR 120
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 61 PNPVDSGCGIDSKHMNSYCTTHTFVKALTTMDGKQAAARFIRIDTACVLSRKAATRR 119
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

RESULT 15
US-08-845-541B-1
: Sequence 1, Application US/08845541B
: Patent No. 6333310
: GENERAL INFORMATION:
:   APPLICANT: Presta, Leonard
:   APPLICANT: Ufer, Roman
:   APPLICANT: Winslow, John
:   TITLE OF INVENTION: NGF VARIANTS
:   FILE REFERENCE: GENENT.039A
:   CURRENT APPLICATION NUMBER: US/08/845,541B
:   CURRENT FILING DATE: 1999-04-25
:   NUMBER OF SEQ ID NOS: 38
:   SOFTWARE: FastSeq for Windows Version 4.0
:   SEQ ID NO 1
:   LENGTH: 120
:   TYPE: PRT
:   ORGANISM: homo sapien
:
US-08-845-541B-1

Query Match      89.4%; Score 584; DB 4; Length 120;
Best Local Similarity 89.9%; Pred. No. 7.2e-65;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

Oy 2 SSTRHVFHMGFEFVCDVSVMVWGDKTTATDIDKGEVTVLAEVNINNSVFOYFFETKCR 61
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 1 SSSHPHFHGRGFSVCDVSVMVWGDKTTATDIDKGEVTVLAEVNINNSVFOYFFETKCRD 60
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

Oy 62 SNPVESGCGIDSKHMNSYCTTHTFVKALTTDEKQAAARFIRIDTACVLSRKAATRR 120
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 61 PNPVDSGCGIDSKHMNSYCTTHTFVKALTTMDGKQAAARFIRIDTACVLSRKAATRR 119
    ||:||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

Search completed: December 2, 2002, 15:09:43
Job time : 9.36928 secs
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:08:47 ; Search time 4.25557 Seconds
(without alignments)
452.778 Million cell updates/sec

Title: US-10-072-681-3
Perfect score: 653
Sequence: 1 PSSHPVFHMGFSVCDSDVS.....FIRIDFACVLSKRRTRG 121

Scoring table:
BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 102317 seqs, 15924203 residues

Total number of hits satisfying chosen parameters: 102317

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published_Applications_AA.*

1: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep.*
2: /cgn2_6/ptodata/1/pubpaa/PCr_NEW_PUB.pep.*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep.*
4: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep.*
5: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep.*
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9: /cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep.*
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12: /cgn2_6/ptodata/1/pubpaa/US10_PUBCOMB.pep.*
13: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep.*
14: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	653	100.0	121	US-10-072-681-3	Sequence 3, Appl1
2	594	91.0	121	US-10-072-681-2	Sequence 2, Appl1
3	584	89.4	241	US-08-450-842-5	Sequence 5, Appl1
4	584	89.4	241	US-08-822-263-16	Sequence 16, Appl1
5	584	89.4	241	US-10-072-681-1	Sequence 1, Appl1
6	579	88.7	153	US-09-798-338-2	Sequence 2, Appl1
7	579	88.7	157	US-09-798-338-4	Sequence 4, Appl1
8	579	88.7	163	US-09-798-338-6	Sequence 6, Appl1
9	579	88.7	167	US-09-798-338-8	Sequence 8, Appl1
10	573	87.7	121	US-09-813-398-9	Sequence 9, Appl1
11	435	66.6	142	US-08-450-842-52	Sequence 52, Appl1
12	378.5	58.0	120	US-09-745-032-1	Sequence 1, Appl1
13	378.5	58.0	120	US-09-742-600-1	Sequence 1, Appl1
14	378.5	58.0	120	US-09-872-090-1	Sequence 1, Appl1
15	378.5	58.0	257	US-08-450-842-4	Sequence 4, Appl1
16	377.5	57.8	119	US-09-745-032-6	Sequence 6, Appl1
17	377.5	57.8	119	US-09-742-600-6	Sequence 6, Appl1
18	377.5	57.8	119	US-09-872-090-6	Sequence 6, Appl1
19	377.5	57.8	120	US-09-745-032-3	Sequence 3, Appl1

20	377.5	57.8	120	US-09-742-600-3	Sequence 3, Appl1
21	377.5	57.8	120	US-09-872-090-3	Sequence 3, Appl1
22	375.5	57.5	117	US-09-745-032-7	Sequence 7, Appl1
23	375.5	57.5	117	US-09-742-600-7	Sequence 7, Appl1
24	375.5	57.5	117	US-09-872-090-7	Sequence 7, Appl1
25	375.5	57.5	118	US-09-745-032-5	Sequence 5, Appl1
26	375.5	57.5	118	US-09-742-600-5	Sequence 5, Appl1
27	375.5	57.5	118	US-09-872-090-5	Sequence 5, Appl1
28	370.5	56.4	120	US-09-813-398-11	Sequence 11, Appl1
29	368.5	56.4	120	US-10-072-681-5	Sequence 5, Appl1
30	345	52.8	72	US-09-848-664-21	Sequence 21, Appl1
31	326.5	50.0	130	US-08-450-842-47	Sequence 47, Appl1
32	325.5	49.8	120	US-09-745-032-8	Sequence 8, Appl1
33	325.5	49.8	120	US-09-745-032-10	Sequence 10, Appl1
34	325.5	49.8	120	US-09-742-600-8	Sequence 8, Appl1
35	325.5	49.8	120	US-09-742-600-10	Sequence 10, Appl1
36	325.5	49.8	247	US-08-450-842-3	Sequence 3, Appl1
37	324.5	49.7	120	US-09-745-032-9	Sequence 9, Appl1
38	324.5	49.7	120	US-09-742-600-9	Sequence 9, Appl1
39	319.5	48.9	120	US-09-813-398-10	Sequence 10, Appl1
40	314.5	48.2	130	US-08-450-842-23	Sequence 23, Appl1
41	312.5	47.9	130	US-08-450-842-22	Sequence 22, Appl1
42	312.5	47.9	131	US-09-813-398-12	Sequence 12, Appl1
43	312.5	47.9	168	US-08-450-842-6	Sequence 6, Appl1
44	312.5	47.9	210	US-08-450-842-2	Sequence 2, Appl1
45	311.5	47.7	130	US-08-450-842-60	Sequence 60, Appl1

ALIGNMENTS

RESULT 1

US-10-072-681-3
Sequence 3, Application US/10072681
Patent No. US20020137893A1
GENERAL INFORMATION:
APPLICANT: Burton, Louis E.
APPLICANT: Schmelzer, Charles H.
TITLE OF INVENTION: PURIFICATION OF NCF
FILE REFERENCE: GENENT.037C3
CURRENT APPLICATION NUMBER: US/10/072, 681
CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: 60/030838
PRIOR FILING DATE: 1996-11-15
PRIOR APPLICATION NUMBER: 60/047855
PRIOR FILING DATE: 1997-05-29
PRIOR APPLICATION NUMBER: 08/970865
PRIOR FILING DATE: 1997-11-14
PRIOR APPLICATION NUMBER: 09/363573
PRIOR FILING DATE: 1999-07-29
PRIOR APPLICATION NUMBER: 09/675, 503
PRIOR FILING DATE: 2000-09-29
NUMBER OF SEQ ID NOS: 6
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 3
LENGTH: 121
TYPE: PRT
ORGANISM: mouse

Query Match 100.0%; Score 653; DB 12; Length 121;
Best Local Similarity 100.0%; Pred. No. 5.1e-68;
Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PSSHPVFHMGFSVCDSDSVWVGDKTTATDCKGEVYLAENVINNSVFRQYFETKCR 60
DB 1 PSSHPVFHMGFSVCDSDSVWVGDKTTATDCKGEVYLAENVINNSVFRQYFETKCR 60
QY 61 ASNPVSGGCGIDSKHMSYCTTHTFVKALTTDEKQAAWRFIRIDFACVLSKRRTRR 120
DB 61 ASNPVSGGCGIDSKHMSYCTTHTFVKALTTDEKQAAWRFIRIDFACVLSKRRTRR 120

OY 121 G 121
Db 121 G 121

RESULT 2
US-10-072-681-2
Sequence 2, Application US/10072681
Patent No. US20020137893A1
GENERAL INFORMATION:
APPLICANT: Burton, Louis E.
APPLICANT: Schmeizler, Charles H.
APPLICANT: Beck, Joanne T.
TITLE OF INVENTION: PURIFICATION OF NCF
FILE REFERENCE: GENEPT.037C3
CURRENT APPLICATION NUMBER: US/10/072.681
CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: 60/030838
PRIOR FILING DATE: 1996-11-15
PRIOR APPLICATION NUMBER: 60/047855
PRIOR FILING DATE: 1997-05-29
PRIOR APPLICATION NUMBER: 08/970865
PRIOR FILING DATE: 1997-11-14
PRIOR APPLICATION NUMBER: 09/363573
PRIOR FILING DATE: 1999-07-29
PRIOR APPLICATION NUMBER: 09/675,503
PRIOR FILING DATE: 2000-09-29
NUMBER OF SEQ ID NOS: 6
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 121
TYPE: PRT
ORGANISM: Homo sapien
US-10-072-681-2

Query Match 91.0%, Score 594, DB 12: Length 121;
Best Local Similarity 90.8%, Pred. No. 3e-61;
Matches 109; Conservative 3; Mismatches 8; Indels 0; Gaps 0;

OY 1 PSSHVFHMFGEFVCDSDSVWVGDKTTATDIDKKEVTVLAENVINNSVFRQYFEETKCR 60
|||:|||||
Db 1 PSSSHPIFRGGEFVCDSDSVWVGDKTTATDIDKKEVTVLAENVINNSVFRQYFEETKCR 60
|||:|||||
OY 61 ASNPVSGCGIDSKHMNSCTTHTFVKALTTDEKQAAARFTRIDTACVCLSRATRR 120
|||:|||||
Db 61 DNPVDSGCGIDSKHMNSCTTHTFVKALTMDEKQAAARFTRIDTACVCLSRATRR 120
|||:|||||

RESULT 3
US-08-450-842-5
Sequence 5, Application US/08450842
Patent No. US20020045576A1
GENERAL INFORMATION:
APPLICANT: GENENTECH, INC.
APPLICANT: ROSENTHAL, ARNON
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.25 Inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/450,842
FILING DATE:
CLASSIFICATION: 514

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA: 08/030013
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2C1D3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 241 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-450-842-5

Query Match 89.4%, Score 584, DB 8: Length 241;
Best Local Similarity 89.9%, Pred. No. 9.4e-60;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

OY 2 STHVFHMFGEFVCDSDSVWVGDKTTATDIDKKEVTVLAENVINNSVFRQYFEETKCR 61
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Db 122 SSSHPIFRGGEFVCDSDSVWVGDKTTATDIDKKEVTVLAENVINNSVFRQYFEETKCR 181
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OY 62 SNPVSGCGIDSKHMNSCTTHTFVKALTTDEKQAAARFTRIDTACVCLSRATRR 120
|||:|||||
Db 182 PNPVDSGCGIDSKHMNSCTTHTFVKALTMDEKQAAARFTRIDTACVCLSRATRR 240
|||:|||||

RESULT 4
US-09-822-263-16
Sequence 16, Application US/09822263
Patent No. US20020036598A1
GENERAL INFORMATION:
APPLICANT: Prayaga, Sudhidas
APPLICANT: Vernet, Corine
APPLICANT: Shinkets, Richard A
APPLICANT: Burgess, Catherine
APPLICANT: Spytek, Kimberly
APPLICANT: Tchernev, Vellizar T
TITLE OF INVENTION: No. US20020036598A1el Polynucleotides and Polypeptides Encoded
FILE REFERENCE: 15966-572 C1P1
CURRENT APPLICATION NUMBER: US/09/822,263
PRIOR APPLICATION NUMBER: 09/672,665
PRIOR FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 09/672,665
PRIOR FILING DATE: 2000-09-28
PRIOR APPLICATION NUMBER: 60/156,745
PRIOR FILING DATE: 1999-09-30
PRIOR APPLICATION NUMBER: 60/158,942
PRIOR FILING DATE: 1999-10-06
PRIOR APPLICATION NUMBER: 60/159,248
PRIOR FILING DATE: 1999-10-13
PRIOR APPLICATION NUMBER: 60/169,344
PRIOR FILING DATE: 1999-12-06
PRIOR APPLICATION NUMBER: 60/215,048
PRIOR FILING DATE: 2000-06-29
NUMBER OF SEQ ID NOS: 36
SOFTWARE: Patentl Ver. 2.1
SEQ ID NO 16
LENGTH: 241
TYPE: PRT
ORGANISM: Homo sapiens

US-09-822-263-16

Query Match 89.4%; Score 584; DB 10; Length 241;
Best Local Similarity 89.9%; Pred. No. 9.4e-60;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 2 SSTRPVHMGFEFSCDVSVMVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 61
||:|||||
Db 122 SSSHPFHRRGEFSCDVSVMVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRCRD 181

QY 62 SNPVEGCRGIDSKHMNSYCTTHTFVKALTTDEKQAMRIRIDTACVCLSKRAVR 120
||:|||||
Db 182 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 240

RESULT 5
US-10-072-681-1

; Sequence 1, Application US/10072681
; Patent No. US20020137893A1
; GENERAL INFORMATION:

; APPLICANT: Burton, Louis E.
; APPLICANT: Schmeizer, Charles H.
; APPLICANT: Beck, Joanne T.
; TITLE OF INVENTION: PURIFICATION OF NGF
; FILE REFERENCE: GENENT.037C3
; CURRENT APPLICATION NUMBER: US/10/072,681
; CURRENT FILING DATE: 2002-02-08
; PRIOR APPLICATION NUMBER: 60/030838
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: 60/047855
; PRIOR FILING DATE: 1997-05-29
; PRIOR APPLICATION NUMBER: 08/970865
; PRIOR FILING DATE: 1997-11-14
; PRIOR APPLICATION NUMBER: 09/363573
; PRIOR FILING DATE: 1999-07-29
; PRIOR APPLICATION NUMBER: 09/675,503
; PRIOR FILING DATE: 2000-09-29
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FastSeq for Windows Version 4.0

; SEQ ID NO 1
; LENGTH: 242
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-072-681-1

Query Match 89.4%; Score 584; DB 12; Length 242;
Best Local Similarity 89.9%; Pred. No. 9.4e-60;
Matches 107; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 2 SSTRPVHMGFEFSCDVSVMVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 61
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Db 123 SSSHPFHRRGEFSCDVSVMVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRCRD 182

QY 62 SNPVEGCRGIDSKHMNSYCTTHTFVKALTTDEKQAMRIRIDTACVCLSKRAVR 120
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Db 183 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 241

RESULT 6
US-09-798-338-2

; Sequence 2, Application US/09798338
; Patent No. US20010020086A1
; GENERAL INFORMATION:

; APPLICANT: Hubbell, Jeffrey A.
; APPLICANT: Schense, Jason C.
; APPLICANT: Sakiyama, Shelly E.
; TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
; FILE REFERENCE: 87662-68879
; CURRENT APPLICATION NUMBER: US/09/798,338
; CURRENT FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: 09/141,153
; PRIOR FILING DATE: 1998-08-27

; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
; LENGTH: 153
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-2

Query Match 88.7%; Score 579; DB 10; Length 153;
Best Local Similarity 89.8%; Pred. No. 2.1e-59;
Matches 106; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 2 SSTRPVHMGFEFSCDVSVMVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 61
||:|||||
Db 35 SSSHPFHRRGEFSCDVSVMVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRCRD 94

QY 62 SNPVEGCRGIDSKHMNSYCTTHTFVKALTTDEKQAMRIRIDTACVCLSKRAVR 119
||:|||||
Db 95 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 152

RESULT 7
US-09-798-338-4

; Sequence 4, Application US/09798338
; Patent No. US20010020086A1
; GENERAL INFORMATION:

; APPLICANT: Hubbell, Jeffrey A.
; APPLICANT: Schense, Jason C.
; APPLICANT: Sakiyama, Shelly E.
; TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
; FILE REFERENCE: 87662-68879
; CURRENT APPLICATION NUMBER: US/09/798,338
; CURRENT FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: 09/141,153
; PRIOR FILING DATE: 1998-08-27
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-4

Query Match 88.7%; Score 579; DB 10; Length 157;
Best Local Similarity 89.8%; Pred. No. 2.1e-59;
Matches 106; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 2 SSTRPVHMGFEFSCDVSVMVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRA 61
||:|||||
Db 39 SSSHPFHRRGEFSCDVSVMVGDKTTATDIDKKEVTVLAEVNINNSVFRQYFETKRCRD 98

QY 62 SNPVEGCRGIDSKHMNSYCTTHTFVKALTTDEKQAMRIRIDTACVCLSKRAVR 119
||:|||||
Db 99 PNPVDSGCRGIDSKHMNSYCTTHTFVKALTMDSKQAMRIRIDTACVCLSKRAVR 156

RESULT 8
US-09-798-338-6

; Sequence 6, Application US/09798338
; Patent No. US20010020086A1
; GENERAL INFORMATION:

; APPLICANT: Hubbell, Jeffrey A.
; APPLICANT: Schense, Jason C.
; APPLICANT: Sakiyama, Shelly E.
; TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
; FILE REFERENCE: 87662-68879
; CURRENT APPLICATION NUMBER: US/09/798,338
; CURRENT FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: 09/141,153
; PRIOR FILING DATE: 1998-08-27

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; FILE REFERENCE: 87662-68879
; CURRENT APPLICATION NUMBER: US/09/798,338
; CURRENT FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: 09/141,153
; PRIOR FILING DATE: 1998-08-27
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: Patentln Ver. 2.0
; SEQ ID NO 6
; LENGTH: 163
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-6

Query Match      88.7%; Score 579; DB 10; Length 163;
Best Local Similarity 89.8%; Pred. No. 2.2e-59;
Matches 106; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

OY 2 SSTRPVFMHGEFSVCDVSVMWGDKTATDIDKKEVTVAEYNNINSVROYFFETKCR 61
Db 45 SSSHPFIRHGEFSVCDVSVMWGDKTATDIDKKEVTVAEYNNINSVROYFFETKCRD 104
OY 62 SNPVESGCGRIDSKHMNSYCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATR 119
Db 105 PNPVDSGCGRIDSKHMNSYCTTHTFVKALTMDGKQAAAFRIRIDTACVLSRKAVR 162

RESULT 9
US-09-798-338-8
; Sequence 8, Application US/09798338
; Patent No. US2001002086A1
; GENERAL INFORMATION:
; APPLICANT: Hubbell, Jeffrey A.
; APPLICANT: Sakiyama, Shelly E.
; TITLE OF INVENTION: ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
; FILE REFERENCE: 87662-68879
; CURRENT APPLICATION NUMBER: US/09/798,338
; CURRENT FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: 09/141,153
; PRIOR FILING DATE: 1998-08-27
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: Patentln Ver. 2.0
; SEQ ID NO 8
; LENGTH: 167
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Artificial
US-09-798-338-8

Query Match      88.7%; Score 579; DB 10; Length 167;
Best Local Similarity 89.8%; Pred. No. 2.3e-59;
Matches 106; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

OY 2 SSTRPVFMHGEFSVCDVSVMWGDKTATDIDKKEVTVAEYNNINSVROYFFETKCR 61
Db 49 SSSHPFIRHGEFSVCDVSVMWGDKTATDIDKKEVTVAEYNNINSVROYFFETKCRD 108
OY 62 SNPVESGCGRIDSKHMNSYCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATR 119
Db 109 PNPVDSGCGRIDSKHMNSYCTTHTFVKALTMDGKQAAAFRIRIDTACVLSRKAVR 166

RESULT 10
US-09-813-398-9
; Sequence 9, Application US/09813398
; Patent No. US20020169292A1
; GENERAL INFORMATION:
```

```
; APPLICANT: Bruce D. Weintraub
; APPLICANT: Mariusz W. Szudlinski
; APPLICANT: University of Maryland
; TITLE OF INVENTION: CYSTINE KNOT GROWTH FACTOR MUTANTS
; FILE REFERENCE: UOPMD.003C1
; CURRENT APPLICATION NUMBER: US/09/813,398
; CURRENT FILING DATE: 2001-03-20
; PRIOR APPLICATION NUMBER: PCT/US99/05908
; PRIOR FILING DATE: 1999-03-19
; PRIOR APPLICATION NUMBER: PCT/US98/19772
; PRIOR FILING DATE: 1998-09-22
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 9
; LENGTH: 121
; TYPE: PRT
; ORGANISM: HOMO SAPIEN
US-09-813-398-9

Query Match      87.7%; Score 573; DB 9; Length 121;
Best Local Similarity 87.5%; Pred. No. 7.6e-59;
Matches 105; Conservative 5; Mismatches 10; Indels 0; Gaps 0;

OY 1 PSTHPVFMHGEFSVCDVSVMWGDKTATDIDKKEVTVAEYNNINSVROYFFETKCR 60
Db 1 PSSHPFIRHGEFSVCDVSVMWGDKTATDIDKKEVTVAEYNNINSVROYFFETKCR 60
OY 61 ASNPVESCGRIDSKHMNSYCTTHTFVKALTTDEKQAAAFRIRIDTACVLSRKATR 120
Db 61 PNPVDSGCGRIDSKHMNSYCTTHTFVKALTMDGKQAAAFRIRIDTACVLSRKAVR 120

RESULT 11
US-08-450-842-52
; Sequence 52, Application US/08450842
; Patent No. US2002004576A1
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patln (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/450,842
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-JAN
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: 666P2C1D3
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; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 52:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 142 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
US-08-450-842-52

Query Match          66.6%; Score 435; DB 8; Length 142;
Best Local Similarity 61.7%; Pred. No. 6.2e-43;
Matches 87; Conservative 12; Mismatches 20; Indels 22; Gaps 4;

QY 2 SSTRPFFHMGEEFVSVDVSGDKTTATDIDKKEVTYLAEVNINNSV----- 49
DB 1 SSSHPFHRGEFVSVDVSGDKTTATDIDKKEVTYLAEVNINNSVYGEVPAAGSP 60
QY 50 FROYPETKCRASNPVE-----SGRGIDSKHNSYCTTTHFYKALTTD-EKQAMR 101
DB 61 LRQYFETKCRADNAEEGGGAGGCGRGVDRRHWSSECAKQSYRALTADAGRGYMR 120
QY 102 FIRIDTA--CVYLSRKATRR 120
DB 121 WIRIDTACVCVYLSRKAVRR 141

RESULT 12
US-09-745-032-1
; Sequence 1, Application US/09745032
; Patent No. US20010027179A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hershenon, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/745,032
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-745-032-1

Query Match          58.0%; Score 378.5; DB 10; Length 120;
Best Local Similarity 58.9%; Pred. No. 1.5e-36;
Matches 66; Conservative 21; Mismatches 24; Indels 1; Gaps 1;

QY 9 HMGEEFVSVDVSGDKTTATDIDKKEVTYLAEVNINNSVFRQYFETKCRASNPVE 68
DB 8 HRGEYSVCDESLMTVDKSSAIDIRGHQYVLGEIKTGNSPVQYFETKCEARPYKNG 67
QY 69 CRGIDSKHNSYCTTTHFYKALTTD-EKQAMRFIRIDTACVCVYLSRKATR 119
DB 68 CRGIDKHNSQCKTSQTYVRALTSENNKLVGMRWIRIDTSCVCAISRKRIGR 119

RESULT 13
US-09-742-600-1
; Sequence 1, Application US/09742600
; Patent No. US20020010135A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
```

```

; APPLICANT: Hershenon, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/742,600
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-742-600-1

Query Match          58.0%; Score 378.5; DB 10; Length 120;
Best Local Similarity 58.9%; Pred. No. 1.5e-36;
Matches 66; Conservative 21; Mismatches 24; Indels 1; Gaps 1;

QY 9 HMGEEFVSVDVSGDKTTATDIDKKEVTYLAEVNINNSVFRQYFETKCRASNPVE 68
DB 8 HRGEYSVCDESLMTVDKSSAIDIRGHQYVLGEIKTGNSPVQYFETKCEARPYKNG 67
QY 69 CRGIDSKHNSYCTTTHFYKALTTD-EKQAMRFIRIDTACVCVYLSRKATR 119
DB 68 CRGIDKHNSQCKTSQTYVRALTSENNKLVGMRWIRIDTSCVCAISRKRIGR 119

RESULT 14
US-09-872-090-1
; Sequence 1, Application US/09872090
; Patent No. US20020052488A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen Ngai Yin
; APPLICANT: Hershenon, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: Analogs of NT-3 (As Amended)
; FILE REFERENCE: A-411B
; CURRENT APPLICATION NUMBER: US/09/872,090
; CURRENT FILING DATE: 2001-06-01
; PRIOR APPLICATION NUMBER: 09/255,953
; PRIOR FILING DATE: 1999-02-23
; PRIOR APPLICATION NUMBER: 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-872-090-1

Query Match          58.0%; Score 378.5; DB 10; Length 120;
Best Local Similarity 58.9%; Pred. No. 1.5e-36;
Matches 66; Conservative 21; Mismatches 24; Indels 1; Gaps 1;

QY 9 HMGEEFVSVDVSGDKTTATDIDKKEVTYLAEVNINNSVFRQYFETKCRASNPVE 68
DB 8 HRGEYSVCDESLMTVDKSSAIDIRGHQYVLGEIKTGNSPVQYFETKCEARPYKNG 67
QY 69 CRGIDSKHNSYCTTTHFYKALTTD-EKQAMRFIRIDTACVCVYLSRKATR 119
DB 68 CRGIDKHNSQCKTSQTYVRALTSENNKLVGMRWIRIDTSCVCAISRKRIGR 119

RESULT 15
US-08-450-842-4
; Sequence 4, Application US/08450842
; Patent No. US20020045576A1
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[illegible]

Search completed: December 2, 2002, 15:14:34
Job time : 4.25557 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:37 : Search time 23.7163 Seconds
(without alignments)
668.605 Million cell updates/sec

Title: US-10-072-681-4

Perfect score: 640

Sequence: 1 PHSDPARRELSTVCDSISEW.....GWRFRIDTSCVLTITKGR 119

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

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14: /SID2/gcgdata/geneseq/geneseq-emb1/AA1993.DAT:*
15: /SID2/gcgdata/geneseq/geneseq-emb1/AA1994.DAT:*
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19: /SID2/gcgdata/geneseq/geneseq-emb1/AA1998.DAT:*
20: /SID2/gcgdata/geneseq/geneseq-emb1/AA1999.DAT:*
21: /SID2/gcgdata/geneseq/geneseq-emb1/AA2000.DAT:*
22: /SID2/gcgdata/geneseq/geneseq-emb1/AA2001.DAT:*
23: /SID2/gcgdata/geneseq/geneseq-emb1/AA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	633	98.9	118	19	AAW48888	Human brain-derive
2	633	98.9	118	19	AAW48888	Brain derived neut
3	622.5	97.3	119	13	AAW29114	BDNF, mouse. Mus
4	622.5	97.3	119	22	AAW76814	Porcine BDNF matur
5	622.5	97.3	119	22	AAW35945	BDNF amino acid se
6	622.5	97.3	120	18	AAW25676	Human BDNF recombl
7	622.5	97.3	142	16	AAW71514	BDNF. Synthetic.
8	622.5	97.3	247	12	AAW11364	Human prepro-Brain
9	622.5	97.3	247	14	AAW37798	Human BDNF. Homo
10	622.5	97.3	247	15	AAW44917	Human BDNF. Homo

11	622.5	97.3	247	16	AAW76817	Human prepro-BDNF.
12	622.5	97.3	247	18	AAW26238	Human preproBDNF.
13	622.5	97.3	247	23	AAW50846	Human recombinant
14	622.5	97.3	249	12	AAW11365	Rat prepro-Brain D
15	622.5	97.3	249	23	AAW57117	Mouse ischemic co
16	622.5	97.3	252	12	AAW11363	Porcine prepro-Bra
17	622.5	97.3	266	22	AAW69000	Human brain-derive
18	619.5	96.8	246	16	AAW76818	Human brain derive
19	617.5	96.5	119	16	AAW76813	Porcine BDNF matur
20	617.5	96.5	247	22	AAW66930	Human BDNF. Homo
21	614.5	96.0	119	15	AAW54085	Neurotrophic facto
22	610.5	95.4	120	17	AAW29391	Conjugate of brain
23	607	94.8	119	16	AAW76815	Porcine BDNF matur
24	606.5	94.8	247	12	AAW14780	Human BDNF. Homo
25	605.5	94.6	123	13	AAW21860	Chimeric neurotrop
26	605.5	94.6	252	16	AAW76816	Porcine prepro-BDN
27	603.5	94.3	247	12	AAW14779	Human BDNF. Homo
28	603.5	94.3	247	12	AAW14031	Human BDNF. Homo
29	598.5	93.5	129	13	AAW21861	Chimeric neurotrop
30	595.5	93.0	123	13	AAW21857	Chimeric neurotrop
31	592	92.5	125	13	AAW21856	Chimeric neurotrop
32	590.5	92.3	123	13	AAW21858	Chimeric neurotrop
33	582.5	91.0	119	21	AAW92007	Human brain derive
34	569.5	89.0	123	13	AAW21859	Chimeric neurotrop
35	542.5	84.8	124	13	AAW21855	Chimeric neurotrop
36	522.5	81.6	124	13	AAW21854	Chimeric neurotrop
37	469.5	73.4	124	13	AAW21853	Chimeric neurotrop
38	375.5	58.7	237	15	AAW47098	Xenopus NT-4 fragm
39	375.5	58.7	237	13	AAW29491	NT-4, Xenopus. Xe
40	375.5	58.7	239	15	AAW47097	Xenopus mature NT-
41	358.5	56.0	120	13	AAW21869	Chimeric neurotrop
42	350.5	54.8	122	13	AAW21865	Chimeric neurotrop
43	349.5	54.6	122	13	AAW21852	Chimeric neurotrop
44	347.5	54.3	120	13	AAW21863	Chimeric neurotrop
45	346.5	54.1	120	13	AAW21867	Chimeric neurotrop

ALIGNMENTS

RESULT 1	
AAW48888	
ID	AAW48888 standard; Protein: 118 AA.
XX	
AC	AAW48888;
XX	
DT	12-OCT-1998 (first entry)
XX	
DE	Human brain-derived neurotrophic factor.
XX	
KW	Neurotrophin; brain-derived neurotrophic factor; BDNF; human;
KW	purification; hydrophobic interaction chromatography.
XX	
OS	Homo sapiens.
XX	
FH	
FT	Key
FT	Region
FT	Location/Qualifiers
FT	58..68
FT	/note="conserved Cys-containing region involved in
FT	Cys knot motif"
FT	109..111
FT	/note="conserved Cys-containing region involved in
FT	Cys knot motif"
XX	
PN	W09821234-A2.
XX	
XX	22-MAY-1998.
XX	
XX	14-NOV-1997; 97MO-US21068.
PF	
XX	29-MAY-1997; 97US-0047855.
PR	15-NOV-1996; 96US-0030838.
XX	
PA	(GETH) GENENTECH INC.

XX Beck JT, Burton LE, Schmelzer CH;
 XX WPI: 1998-322333/28.
 DR
 XX Isolation of neurotrophin(s) from, e.g. mis-folded or glycosylated
 PT variant(s) - using hydrophobic interaction chromatography,
 PT optionally in combination with high performance cation exchange
 PT chromatography
 XX
 PS Disclosure; Page 37; 59pp; English.
 XX
 CC This polypeptide comprises brain-derived neurotrophic factor
 CC (BDNF). Methods are provided for large-scale purification of
 CC neurotrophins, including mature BDNF, suitable for clinical use. A
 CC claimed method comprises: (1) separating the neurotrophin from the
 CC other proteins using a hydrophobic interaction chromatography resin
 CC (HICR); and optionally (2) separating the neurotrophin from a
 CC chemical variant by high performance cation exchange chromatography
 CC (HPCEC). The processes can also be used for purification of e.g.
 CC human nerve growth factor (NGF) (see AAW48886), mouse NGF (see
 CC AAW48887), neurotrophin-4/5 (see AAW48890) and neurotrophin-3 (see
 CC AAW48889). The processes allow separation of neurotrophins from
 CC various undesirable misprocessed, misfolded, size, glycosylated or
 CC charge forms. They allow selective separation from variants and
 CC other molecules, and from other polypeptides with high pI. The
 CC processes are applicable to starting materials from various
 CC sources, including fermentation broths or lysed bacterial or
 CC mammalian cells.
 CC
 SO Sequence 118 AA;
 Query Match 98.9%; Score 633; DB 19; Length 118;
 Best Local Similarity 100.0%; Pred. No. 5.4e-62;
 Matches 118; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 2 HSDPARRGELSYCDISSEWYTAADKKTAVDMGSGVTYLEKVPVSKGOLKQFYETKCNP 61
 DB 1 HSDPARRGELSYCDISSEWYTAADKKTAVDMGSGVTYLEKVPVSKGOLKQFYETKCNP 60
 OY 62 MGYTEGCGRIDKRRHNSQCRTTQSYVRALTMDSKKRIGWRIRIDTSCVLTITKRG 119
 DB 61 MGYTEGCGRIDKRRHNSQCRTTQSYVRALTMDSKKRIGWRIRIDTSCVLTITKRG 118
 RESULT 2
 AAB29114
 ID AAB29114 standard; Protein: 118 AA.
 AC AAB29114;
 DT 02-FEB-2001 (first entry)
 DE Brain derived neurotrophic factor.
 DE
 XX Neurotrophin; trkB; trkC; ototoxicity-related balance impairment;
 KW Meniere's syndrome; myringitis; otitis media;
 KW acute vestibular neuronitis; herpes zoster oticus; labyrinthitis;
 KW middle; labyrinthine tumour; petrositis; otosclerosis; bacteria.
 XX
 OS Homo sapiens.
 XX
 PN US6121235-A.
 PD 19-SEP-2000.
 PF 29-DEC-1995; 95US-0581662.
 PR 29-DEC-1995; 95US-0581662.
 PA (GETH) GENENTECH INC.
 PI Gao W;

XX WPI: 2000-618200/59.
 XX
 PT Treating ototoxin-induced neuronal-related balance impairment and
 PT promoting vestibular ganglion neuron survival prior to, upon or after
 PT exposure to an ototoxin, comprises administering a trkB or trkC agonist
 PT
 XX
 PS Disclosure; Column 49-50; 40pp; English.
 XX
 CC The present invention relates to treating ototoxin-induced
 CC neuronal-related balance impairment in a mammal by administering a
 CC trkB or trkC agonist, particularly neurotrophin-4/5 (Nt-4/5).
 CC ototoxicity-related balance impairments include Meniere's syndrome,
 CC myringitis, otitis media, acute vestibular neuronitis, herpes zoster
 CC oticus, labyrinthitis, middle or labyrinthine tumours, petrositis and
 CC otosclerosis. Nt-4/5 may also be used to treat diseases
 CC induced by gram positive, gram negative and acid-fast bacteria. The
 CC present sequence is a protein used in the invention.
 CC
 SO Sequence 118 AA;
 Query Match 98.9%; Score 633; DB 21; Length 118;
 Best Local Similarity 100.0%; Pred. No. 5.4e-62;
 Matches 118; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 2 HSDPARRGELSYCDISSEWYTAADKKTAVDMGSGVTYLEKVPVSKGOLKQFYETKCNP 61
 DB 1 HSDPARRGELSYCDISSEWYTAADKKTAVDMGSGVTYLEKVPVSKGOLKQFYETKCNP 60
 OY 62 MGYTEGCGRIDKRRHNSQCRTTQSYVRALTMDSKKRIGWRIRIDTSCVLTITKRG 119
 DB 61 MGYTEGCGRIDKRRHNSQCRTTQSYVRALTMDSKKRIGWRIRIDTSCVLTITKRG 118
 RESULT 3
 AAR29494
 ID AAR29494 standard; Protein: 119 AA.
 AC AAR29494;
 DT 22-APR-1993 (first entry)
 DE BDNF, mouse.
 DE
 XX Neurotrophin; NT; nerve growth factor; NGF;
 KW Brain-derived neurotrophic factor; BDNF.
 XX
 OS Mus musculus.
 XX
 PN WO9220365-A.
 PD 26-NOV-1992.
 PF 20-MAY-1992; 92WO-US04266.
 PR 21-MAY-1991; 91US-0703450.
 PR 12-JUL-1991; 91US-0729253.
 PR 23-JUL-1991; 91US-0734422.
 PR 28-AUG-1991; 91US-0751356.
 PR 20-SEP-1991; 91US-0762674.
 PR 14-NOV-1991; 91US-0791924.
 PA (REGG-) REGENERON PHARM INC.
 PI Hallbook F, Ibanez Moliner CF, Persson HB, Yancopoulos GD;
 WPI: 1992-415468/50.
 DR
 XX Use of neurotrophin-4 for promoting growth and survival of nerve
 PT cells - useful in treating neurological, fertility and
 PT immunological disorders and in diagnosis

PS Disclosure; Page 106 + Fig 4B; 180pp; English.

XX A comparison of the mature NT-4 protein (Xenopus) to the mature
CC NGF, BDNF, and NT-3 proteins from mouse revealed 51%, 60% and 58%
CC amino acid identity respectively. See sequences AAR29491 and
CC AAR29493-95.

XX Sequence 119 AA;

SO Query Match 97.3%; Score 622.5; DB 13; Length 119;
Best Local Similarity 99.2%; Pred. No. 7.8e-61;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARRGELSVCSISEMTAAADKKTAVDMSCGTVTLKVPVSKGOLKQFYETKCNP 61
DB 1 HSDPARRGELSVCSISEMTAAADKKTAVDMSCGTVTLKVPVSKGOLKQFYETKCNP 60
QY 62 MGYTRGCGRIDKRMHNSQCRTOGYVRLATMDSKKRIGWRFIRIDTSCV-TLTIKRG 119
DB 61 MGYTRGCGRIDKRMHNSQCRTOGYVRLATMDSKKRIGWRFIRIDTSCVCTLTIKRGR 119

RESULT 4
AAR76814 standard; Protein: 119 AA.

XX AAR76814;

AC 07-DEC-1995 (first entry)

DT Porcine BDNF mature protein.

DE Brain derived neurotrophic factor; BDNF; neuron; Alzheimer's disease;

KW trauma; Parkinson's disease.

XX Sus scrofa.

OS US5438121-A.

PN 01-AUG-1995.

PD 30-AUG-1989; 89US-0400591.

PF 25-APR-1991; 91US-0691612.
30-AUG-1989; 89US-0400591.
20-AUG-1990; 90US-0570657.

XX (PLAC) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN.
PA (REG-) REGENERON PHARM INC.

XX Barde Y, Edgar D, LeDobrock J, Lottspeich F, Thoenen H;
PI Yancopoulos G;
PI WPI: 1995-274920/36.

XX New brain derived neurotrophic factor proteins sustain survival of CNS
PT dopaminergic and cholinergic neurons - used in the diagnosis and
PT treatment of neurological disorders, eg. trauma, Alzheimer's disease,
PT etc.

XX Claim 2; Column 89; 100pp; English.

XX Mature BDNF proteins isolated from pig brain are given in AAR76813-15.
CC They are used to isolate nucleic acids encoding BDNF and to develop
CC antibodies and other prods. useful in the diagnosis and treatment of
CC neurological disorders.

XX Sequence 119 AA;

SO Query Match 97.3%; Score 622.5; DB 16; Length 119;
Best Local Similarity 99.2%; Pred. No. 7.8e-61;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARRGELSVCSISEMTAAADKKTAVDMSCGTVTLKVPVSKGOLKQFYETKCNP 61
DB 1 HSDPARRGELSVCSISEMTAAADKKTAVDMSCGTVTLKVPVSKGOLKQFYETKCNP 60
QY 62 MGYTRGCGRIDKRMHNSQCRTOGYVRLATMDSKKRIGWRFIRIDTSCV-TLTIKRG 119
DB 61 MGYTRGCGRIDKRMHNSQCRTOGYVRLATMDSKKRIGWRFIRIDTSCVCTLTIKRGR 119

RESULT 5
AAB35945 standard; Protein: 119 AA.

XX AAB35945;

AC 26-FEB-2001 (first entry)

DT BDNF amino acid sequence.

DE Heparin binding; vascular graft; matrix; cell adhesion; growth factor;

KW wound healing; dermal wound; wound healing; BDNF.

XX Unidentified.

XX WO200064481-A1.

XX 02-NOV-2000.

XX 22-APR-1999; 99WO-IB00800.

XX 22-APR-1999; 99WO-IB00800.

XX (ETHZ-) ETH ZURICH & UNIV ZURICH.

XX Sakiyama SE, Hubbell JA;
PI WPI: 2001-024627/03.

DR Matrix for controlled release of growth factor for wound healing, has
PT substrate that attaches heparin binding peptide, protein growth factor
PT that bind heparin with low affinity, and heparin or heparin-like
PT polymer -

XX Example 5; Page 21; 48pp; English.

PS This invention relates to a matrix comprising a substrate capable of
CC providing attachment of a heparin binding peptide (HBP), a peptide
CC comprising a binding domain which binds heparin with high affinity,
CC heparin or heparin-like polymer, and a protein growth factor or peptide
CC fragment which has a domain that binds heparin with low affinity.
CC Included in the invention is a vascular graft comprising the matrix,
CC which is capable of supporting cell adhesion. The matrix is used for
CC delivering low heparin binding affinity growth factor proteins or
CC peptides in a controlled manner suitable for wound healing. The matrix
CC can be used in an article for treating dermal wounds, and in an
CC implantable sterilized composition capable of supporting cell adhesion.
CC The present sequence represents a growth factor protein. The protein is
CC used in an example illustrating that non-heparin-binding growth factors
CC can be released in a controlled manner from heparin-based drug delivery
CC systems based on their low affinity for heparin.

XX Sequence 119 AA;

SO Query Match 97.3%; Score 622.5; DB 22; Length 119;
Best Local Similarity 99.2%; Pred. No. 7.8e-61;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARRGELSVCSISEMTAAADKKTAVDMSCGTVTLKVPVSKGOLKQFYETKCNP 61
DB 1 HSDPARRGELSVCSISEMTAAADKKTAVDMSCGTVTLKVPVSKGOLKQFYETKCNP 60
QY 62 MGYTRGCGRIDKRMHNSQCRTOGYVRLATMDSKKRIGWRFIRIDTSCV-TLTIKRG 119
DB 61 MGYTRGCGRIDKRMHNSQCRTOGYVRLATMDSKKRIGWRFIRIDTSCVCTLTIKRGR 119

DB 61 MGYTKEGCGIDKRRHNSOCCRTTOSYVRALTMDSKKRIGRIRIDTSCVCTLTIRGR 119

RESULT 6

AAW25676 standard; protein; 120 AA.

AAW25676;

18-NOV-1997 (first entry)

Human BDNF recombinantly produced by E. coli.

Human; brain derived neurotrophic factor; BDNF; E. coli; epilepsy; neuroplasticity; adult brain; epileptic seizure.

Homo sapiens.

WO9703689-A1.

06-FEB-1997.

08-JUL-1996; 96WO-US11488.

14-JUL-1995; 95US-0502348.

(AMGE-) AMGEN INC.

(COLD-) COLD SPRING HARBOR LAB.

(UYPA-) UNIV PASTEUR LOUIS.

Carnahan JF, Depaulis A, Feltz P, Larmet Y, Marescaux C;

Nawa H;

WPI: 1997-132374/12.

Treatment of epilepsy in a mammal - by administration of

brain-derived neurotrophic factor

Claim 5; Page 12; 22pp; English.

This sequence represents recombinant human brain derived neurotrophic

factor (BDNF) which has been produced in E. coli. BDNF may be used

to treat epilepsy in mammals. The BDNF has a protective role in the

regulation of neuroplasticity in the adult brain and blocks the

development of epileptic seizures. The BDNF is preferably administered

in an amount of 0.02-0.25 g/kg/day by intraparenchymal or

intraventricular injection.

Sequence 120 AA;

Query Match 97.3%; Score 622.5; DB 18; Length 120;

Best Local Similarity 99.2%; Pred. No. 7.9e-61;

Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

2 HSDPARRGELSYCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 61

2 HSDPARRGELSYCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 61

62 MGYTKEGCGRIDKRRHNSOCCRTTOSYVRALTMDSKKRIGRIRIDTSCV-TLTIRGR 119

62 MGYTKEGCGRIDKRRHNSOCCRTTOSYVRALTMDSKKRIGRIRIDTSCV-TLTIRGR 120

RESULT 7

AAW25676 standard; protein; 142 AA.

KW Primer; polymerase chain reaction; amplify; PCR;

KW brain-derived neurotrophic factor; BDNF; E.coli; signal sequence;

KW transformation; dorsal root ganglia; chick embryo.

OS Synthetic.

JP0702378-A.

27-JAN-1995.

05-JUL-1993; 93JP-0190937.

05-JUL-1993; 93JP-0190937.

(HITA) HITACHI LTD.

WPI: 1995-100949/14.

N-PSDB; AA085998.

Vector encoding Brain-derived neurotrophic factor - for the

effective production of BDNF by recombinant E. coli

Claim 7; Page 2; 9pp; Japanese.

This sequence represents brain-derived neurotrophic factor (BDNF). The

coding sequence was amplified using the primers given in AA085996-97

which were also used to link the amplified sequence was to an E.coli

signal sequence and further E.coli sequences which control gene

expression. The recombinant sequences were used to transform E.coli

for the large scale production of BDNF. The biological activity of

the isolated BDNF was evaluated using dorsal root ganglia of an 8 day

chick embryo.

Sequence 142 AA;

Query Match 97.3%; Score 622.5; DB 16; Length 142;

Best Local Similarity 99.2%; Pred. No. 9.7e-61;

Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

2 HSDPARRGELSYCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 61

24 HSDPARRGELSYCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 83

62 MGYTKEGCGRIDKRRHNSOCCRTTOSYVRALTMDSKKRIGRIRIDTSCV-TLTIRGR 119

84 MGYTKEGCGRIDKRRHNSOCCRTTOSYVRALTMDSKKRIGRIRIDTSCV-TLTIRGR 142

RESULT 8

AAW25676 standard; protein; 247 AA.

AAW25676;

31-MAY-1991 (first entry)

Human prepro-Brain Derived Neurotrophic Factor.

BDNF; Parkinson's disease; Huntington's Chorea; Alzheimer's Disease;

neuroblastoma; Parkinson-plus Syndrome.

Homo sapiens.

WO9103568-A.

21-MAR-1991.

Location/Qualifiers

129..247

/label= mature human BDNF

1..128

/label= pre-pro-sequence

PF 29-AUG-1990; 90MO-US04915.
XX
XX 20-AUG-1990; 90US-0570657.
PR 30-AUG-1989; 89US-0400591.
XX
PA (PLAC) MAX PLANCK GES WISSENSCH.
XX (REGE-) REGENERON PHARM INC.
XX
PI Hyman C, Alderson R, Yancopoulos G, Barde YA, Thoenen HFE;
XX Hohn A, Lottspeich F, Lindsay RM;
XX WPI: 1991-102083/14.
DR N-PSDB: AAQ11204.
XX
XX
PT Brain derived neurotrophic factor and DNA encoding it - for
PT diagnosis and treatment of neurological disorders, eg
PT Parkinson's disease and retinal degeneration
XX
PS Claim 25; Page 154; 229pp; English.
XX
CC A portion of the coding sequence for mature human BDNF was
CC amplified by PCR and the sequence determined. The deduced amino
CC acid sequence for the region of at least amino acids 28 to 111 was
CC identical to that of porcine BDNF. The BDNF can be used to sustain
CC the survival of dopaminergic and cholinergic neurons of the CNS, to
CC suppress the proliferation of astroglial cells, to inhibit the uptake
CC of GABA into neurons and to upregulate the expression of NGF receptor
CC on the cell surface.
CC See also AAQ11203, AAQ11205-6 and AAQ11604.
XX
SQ Sequence 247 AA;

Query Match 97.3%; Score 622.5; DB 12; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-60;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARRGELSYCDISISEMTAAADKKTAVDMSCGVTVEKVPVSKGOLKQYFETKCNP 61
DB 129 HSDPARRGELSYCDISISEMTAAADKKTAVDMSCGVTVEKVPVSKGOLKQYFETKCNP 188
|||
QY 62 MGYTEGCGRGIDKRHMNSQCRRTOSYVRLMTDSKKRIGWFRIRDTSCV-TLTIKGR 119
DB 189 MGYTEGCGRGIDKRHMNSQCRRTOSYVRLMTDSKKRIGWFRIRDTSCVTLTIKGR 247
|||

RESULT 9
AAR37798
ID AAR37798 standard; Protein: 247 AA.
XX
AC AAR37798;
XX
DT 29-SEP-1993 (first entry)
XX
DE Human BDNF.
XX
KW Chimeric; human; prepro: NGF; brain-derived neurotrophic factor;
KW BDNF; chimeric; fusion; mouse; nerve growth factor.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Region 1..128
FT /note= "Prepro region"
FT Protein 129..247
FT /note= "Mature BDNF"
XX
XX MO9310150-A.
XX
XX 27-MAY-1993.
XX
XX 13-NOV-1992; 92MO-US09792.
XX
XX 14-NOV-1991; 91US-0792492.

XX
PA (AMGE-) AMGEN.
XX (REGE-) REGENERON PHARM INC.
XX
XX Giles D, Hu SS, Ip N, Squinto SP, Yancopoulos GD;
XX WPI: 1993-182492/22.
DR N-PSDB: AAQ42570.
XX
XX
PT Eukaryotic expression of neurotrophins - using prepro region of a
PT different neurotrophin for more efficient post-translational
PT processing
XX
PS Disclosure; Fig 3; 80pp; English.
XX
XX This sequence represents human brain-derived neurotrophic factor
XX (BDNF). The protein encoded by this sequence promotes the survival
XX of dorsal root ganglions. BDNF is a highly basic protein (isoelectric
XX point, pI 10.1) which has a molecular weight of 12.3 kD. These
XX characteristics are very similar to the nerve growth factor (NGF).
XX The cDNA encoding this protein may be used in the construction of a
XX chimeric nucleic acid molecule to encode a preproNGF/BDNF chimera
XX (see also AAQ42568-69).
XX
SQ Sequence 247 AA;

Query Match 97.3%; Score 622.5; DB 14; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-60;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARRGELSYCDISISEMTAAADKKTAVDMSCGVTVEKVPVSKGOLKQYFETKCNP 61
DB 129 HSDPARRGELSYCDISISEMTAAADKKTAVDMSCGVTVEKVPVSKGOLKQYFETKCNP 188
|||
QY 62 MGYTEGCGRGIDKRHMNSQCRRTOSYVRLMTDSKKRIGWFRIRDTSCV-TLTIKGR 119
DB 189 MGYTEGCGRGIDKRHMNSQCRRTOSYVRLMTDSKKRIGWFRIRDTSCVTLTIKGR 247
|||

RESULT 10
AAR44917
ID AAR44917 standard; Protein: 247 AA.
XX
AC AAR44917;
XX
DT 18-OCT-1994 (first entry)
XX
DE Human BDNF.
XX
KW BDNF; brain derived nerve factor; promotor; expression; vector.
XX
OS Homo sapiens.
XX
PN JP05317049-A.
XX
PD 03-DEC-1993.
XX
PE 01-JUN-1992; 92JP-0140570.
XX
PR 31-MAY-1991; 91JP-0129666.
XX
PA (TAKE) TAKEDA CHEM IND LTD.
XX
XX WPI: 1994-011018/02.
DR N-PSDB: AAQ54374.
XX
XX
PT Expression promoter contg. 142 specified bases - is used in
PT prepn. of diseased model animal and drug screening system
XX
XX Claim 1; Fig 1; 15pp; Japanese.
XX
XX The sequence (AAQ54374) encodes a human brain derived nerve nutrient
XX factor. This is also transformed into a bacterium using the vector

CC shown in sequence (AA054375). The factor can be used for the
CC preparation of animal models of diseases and their treatment as
CC well as establishing a drug screening system.

XX Sequence 247 AA:

Query Match 97.3%; Score 622.5; DB 15; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-60;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARRGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 61
DB 129 HSDPARRGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 188

OY 62 MGYTEGCGRGIDKRRHMSOCCRTTOSYVRALTMDSKKRIGWRFIRIDTSCV-TLTIKRGR 119
DB 189 MGYTEGCGRGIDKRRHMSOCCRTTOSYVRALTMDSKKRIGWRFIRIDTSCV-TLTIKRGR 247

RESULT 11
AAR76817
ID AAR76817 standard; Protein: 247 AA.

AC AAR76817;

DT 07-DEC-1995 (first entry)

DE Human prepro-BDNF.

XX Brain derived neurotrophic factor: BDNF; neuron; Alzheimer's disease;
KW trauma; Parkinson's disease.

XX Homo sapiens.

OS Key Location/Qualifiers

FT Active-site 1..128 /label= Prepro-peptide

PN US5438121-A.

PD 01-AUG-1995.

PF 30-AUG-1989; 89US-0400591.

PR 25-APR-1991; 91US-0691612.

PR 30-AUG-1989; 89US-0400591.

PR 20-AUG-1990; 90US-0570657.

XX (PLAC) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN.

PA (REGG-) REGENERON PHARM INC.

XX Barde Y, Edgar D, LeDrook J, Lottspeltch F, Thoenen H;

PI Yancopoulos G;

XX WPI: 1995-274920/36.

DR N-PSDB; AA093135.

XX New brain derived neurotrophic factor proteins sustain survival of CNS

PT dopaminergic and cholinergic neurons - used in the diagnosis and

PT treatment of neurological disorders, eg. trauma, Alzheimer's disease,

PT etc.

XX Disclosure; Fig.4B-H; 100pp; English.

XX An adult human retina cDNA library was screened using a probe

CC based on pig BDNF to obtain a clone, phBDNF-C-1, that encoded

CC prepro-BDNF.

XX Sequence 247 AA:

Query Match 97.3%; Score 622.5; DB 16; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-60;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARRGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 61
DB 129 HSDPARRGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 188

OY 62 MGYTEGCGRGIDKRRHMSOCCRTTOSYVRALTMDSKKRIGWRFIRIDTSCV-TLTIKRGR 119
DB 189 MGYTEGCGRGIDKRRHMSOCCRTTOSYVRALTMDSKKRIGWRFIRIDTSCV-TLTIKRGR 247

RESULT 12
AAM26238
ID AAM26238 standard; Protein: 247 AA.

AC AAM26238;

DT 16-MAR-1998 (first entry)

DE Human preproBDNF.

XX Fusion protein; hydrophilic spacer; recombinant; expression system;
KW carboxypeptidase; preproNGF.

XX Homo sapiens.

PN MO9728272-A1.

PD 07-AUG-1997.

PF 31-JAN-1997; 97WO-US01470.

PR 31-JAN-1996; 96US-0595043.

XX (TECH-) TECHNOLOGENE INC.

PA Sgarlato GD;

XX WPI: 1997-402624/37.

DR N-PSDB; AAT80163.

XX Recombinant protein expression system for fusion protein production

PT - useful for high quantity production of authentic recombinant

PT proteins

XX Example 6; Page 142-143; 194pp; English.

PS A novel recombinant vector has been developed which comprises a

CC nucleotide sequence encoding a fusion protein. The fusion protein

CC comprises three domains joined together in order, from N-terminus to

CC C-terminus, of a first domain comprising a protein of interest, a second

CC domain comprising a hydrophilic spacer and an affinity domain, each

CC domain comprising amino acid residues. The present sequence represents

CC human preproBDNF, used in example 6 of the present invention. The

CC recombinant vector is used for the production of authentic recombinant

CC proteins of interest. The method of the invention is useful for the

CC expression of fusion proteins capable of isolation by affinity

CC chromatography in pro- or eukaryotic cells. This method allows

CC for the efficient cleavage and generation of authentic proteins of

CC interest that do not contain extraneous (i.e. non-naturally occurring)

CC amino acids.

XX Sequence 247 AA:

Query Match 97.3%; Score 622.5; DB 18; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-60;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARRGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 61
DB 129 HSDPARRGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 188

OY 62 MGYTEGCGRGIDKRRHMSOCCRTTOSYVRALTMDSKKRIGWRFIRIDTSCV-TLTIKRGR 119
DB 189 MGYTEGCGRGIDKRRHMSOCCRTTOSYVRALTMDSKKRIGWRFIRIDTSCV-TLTIKRGR 247

DB 189 MGYTKEGCRGIDKRMHNSOCRTQSYVALTMDSKKRIGRIFRIDTSCVCTLTIRKGR 247

RESULT 13
AAM50846
ID AAM50846 standard; Protein; 247 AA.

XX
XX AAM50846;
XX
XX
XX 01-MAY-2002 (first entry)
XX
XX Human recombinant brain-derived growth factor.
XX
XX Brain-derived growth factor; BDNF; human; neurotrophic factor; NTF;
XX Huntington's disease; Parkinson's disease; Alzheimer's disease;
XX amyotrophic lateral sclerosis; neurodegenerative disease; cancer;
XX neuroprotective; nootropic; anticonvulsant; antiparkinsonian;
XX cytosolic; therapy.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX Peptide 1..18
XX /label= Signal_peptide
XX Peptide 19..128
XX /label= Propeptide
XX Protein 129..247
XX /label= Mature_protein
XX Disulfide-bond 141..208
XX Disulfide-bond 186..237
XX Disulfide-bond 196..237
XX Disulfide-bond 196..239
XX Misc-difference 66
XX /note= "may be replaced by Met"
XX
XX WO200203071-A2.
XX
XX 10-JAN-2002.
XX
XX 05-JUL-2001; 2001WO-US21472.
XX
XX 05-JUL-2000; 2000US-215778P.
XX
XX (PANG-) PANGENE CORP.
XX
XX Bates AT;
XX
XX WPI; 2002-179638/23.
XX
XX Screening for a neurotrophic factor mimetic, useful for treating, e.g.,
XX cancer and Alzheimer's, comprises combining a candidate mimetic with a
XX fragment of a tyrosine kinase protein -
XX
XX Disclosure; Fig 6; 107pp; English.

XX
XX The present sequence is that of human recombinant brain-derived
XX growth factor (BDNF), a neurotrophic factor (NTF) that binds to TrkB
XX receptor tyrosine kinase. The invention concerns Trks and their
XX ligands that modulate cell growth, differentiation and survival.
XX Trk proteins are known to mediate the activities of neurotrophins
XX and are also known proto-oncogenes. Methods are claimed for screening
XX in small molecule NTF mimetics, such as the cyclic peptide given
XX in AAM50844, capable of binding to a Trk protein or of modulating
XX the binding of a neurotrophin to a Trk protein. Also claimed are
XX medicaments comprising a small molecule NTF mimetic and their use
XX in claimed methods for treatment of cancer or a neurodegenerative
XX disease selected from Huntington's disease, Parkinson's disease,
XX Alzheimer's disease and amyotrophic lateral sclerosis.
XX
XX Sequence 247 AA;

Query Match 97.3%; Score 622.5; DB 23; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-60;

Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARGELSDVDISEWNTAADKKTAVDMSGTVLEKEVPVSKQLQYEFETKCNP 61
DB 129 HSDPARGELSDVDISEWNTAADKKTAVDMSGTVLEKEVPVSKQLQYEFETKCNP 188

QY 62 MGYTKEGCRGIDKRMHNSOCRTQSYVALTMDSKKRIGRIFRIDTSCV-TLTIRKGR 119
DB 189 MGYTKEGCRGIDKRMHNSOCRTQSYVALTMDSKKRIGRIFRIDTSCVCTLTIRKGR 247

RESULT 14
AAR1365
ID AAR1365 standard; Protein; 249 AA.
XX
XX AAR1365;
XX
XX 31-MAY-1991 (first entry)
XX
XX Rat prepro-Brain Derived Neurotrophic Factor.
XX
XX BDNF; Parkinson's disease; Huntington's Chorea; Alzheimer's Disease;
XX neuroblastoma; Parkinson-plus Syndrome.
XX
XX Rattus rattus.
XX
XX Key Location/Qualifiers
XX Protein 131..249
XX /label= mature rat BDNF
XX Peptide 1..130
XX /label= pre-pro-sequence
XX
XX WO9103568-A.
XX
XX 21-MAR-1991.
XX
XX 29-AUG-1990; 90MO-US04915.
XX
XX 20-AUG-1990; 90US-0570657.
XX 30-AUG-1989; 89US-0400591.
XX
XX (PLAC) MAX PLANCK GES WISSENSCH.
XX (REG-) REGENERON PHARM INC.
XX
XX Hyman C, Alderson R, Yancopoulos G, Barde YA, Thoenen HFE;
XX Hohn A, Lottspeich F, Lindsay RW;
XX
XX WPI; 1991-102083/14.
XX
XX N-PSDB; AAQ11205.
XX
XX Brain derived neurotrophic factor and DNA encoding it - for
XX diagnosis and treatment of neurological disorders, eg
XX Parkinson's disease and retinal degeneration
XX
XX Claim 30; Page 155; 229pp; English.

XX
XX A portion of the coding sequence for mature rat BDNF was
XX amplified by PCR and the sequence determined. The sequence contains
XX a number of conservative changes from the porcine BDNF gene
XX although the deduced amino acid sequence for the region of at least
XX amino acids 28 to 111 was identical to that of porcine BDNF.
XX The BDNF can be used to sustain the survival of dopaminergic and
XX cholinergic neurons of the CNS, to suppress the proliferation of
XX astroglial cells, to inhibit the uptake of GABA into neurons and to
XX upregulate the expression of NGF receptor on the cell surface.
XX See also AAQ11203-4, AAQ11206 and AAQ11604.
XX
XX Sequence 249 AA;

Query Match 97.3%; Score 622.5; DB 12; Length 249;
Best Local Similarity 99.2%; Pred. No. 2e-60;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCDISISEWYTAADKKTAVDMSCGTVYLEKVPVSKGOLKQYFETKCNP 61
DB 131 HSDPARGELSVCDISISEWYTAADKKTAVDMSCGTVYLEKVPVSKGOLKQYFETKCNP 190
OY 62 MGYTEGCGRGIDKRRHMSQCRRTQSYVRALTMDSKKRIGRFRIRIDTSCV-TLTIKGR 119
DB 191 MGYTEGCGRGIDKRRHMSQCRRTQSYVRALTMDSKKRIGRFRIRIDTSCV-TLTIKGR 249

RESULT 15

ABB57117
ID ABB57117 standard; Protein: 249 AA.

AC ABB57117;
XX

DT 07-MAR-2002 (first entry)
XX

DE Mouse ischaemic condition related protein sequence SEQ ID NO:266.

XX Mouse; Ischemia; compressive ischaemia; occlusive ischaemia;
KW vasospastic ischaemia; ischaemic condition; ischaemic disease.

XX Mus musculus.
OS

PN M0200188188-A2.
PN

PD 22-NOV-2001.
PD

PF 18-MAY-2001; 2001MO-JP04192.
PF

PR 18-MAY-2000; 2000JP-0145977.
PR

XX (UYNI-) UNIV NIHON SCHOOL JURIDICAL PERSON.
XX

PI Ishikawa K, Asai S, Takahashi Y, Nagata T, Ishii Y;
PI

DR WPI: 2002-034733/04.
DR

DR N-PSDB; ABI99369.
DR

XX Examining the ischemic condition (e.g. occlusive ischemia) by measuring
PT expression levels of particular genes defined in the specification or
PT by determining the expression profile of a gene group comprising these
PT genes -

PS Claim 2; Page 748-749; 2690pp; English.
PS

XX The present invention describes a method for examining ischaemic
CC conditions, comprising measuring the expression levels of particular
CC genes (I) in a test sample or determining the expression profile of a
CC gene group in the sample comprising genes selected from (I). The method
CC is useful for examining the ischaemic condition (e.g. compressive
CC ischaemia, occlusive ischaemia or vasospastic ischaemia) by measuring
CC expression levels of particular genes (ABI99202 to ABI99912, encoding
CC the protein sequences in ABB57020 to ABB57374) or by determining the
CC expression profile of a gene group comprising these genes. The
CC expression levels or expression profiles produced by these genes are
CC used as an indicator when screening for ischaemic condition-improving
CC drugs or therapeutics for ischaemic diseases. ABI99913 and ABI99914
CC represent PCR primers for a mouse ischaemic condition related sequence,
CC which are used in the exemplification of the present invention.

XX Sequence 249 AA;
SQ

Query Match 97.3%; Score 622.5; DB 23; Length 249;
Best Local Similarity 99.2%; Pred. No. 2e-60;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCDISISEWYTAADKKTAVDMSCGTVYLEKVPVSKGOLKQYFETKCNP 61
DB 131 HSDPARGELSVCDISISEWYTAADKKTAVDMSCGTVYLEKVPVSKGOLKQYFETKCNP 190
OY 62 MGYTEGCGRGIDKRRHMSQCRRTQSYVRALTMDSKKRIGRFRIRIDTSCV-TLTIKGR 119
DB 191 MGYTEGCGRGIDKRRHMSQCRRTQSYVRALTMDSKKRIGRFRIRIDTSCV-TLTIKGR 249

DB 191 MGYTEGCGRGIDKRRHMSQCRRTQSYVRALTMDSKKRIGRFRIRIDTSCV-TLTIKGR 249
Search completed: December 2, 2002, 15:08:39
Job time : 24.7163 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 : Search time 9.48652 Seconds

(Without alignments)
1205.921 Million cell updates/sec

Title: US-10-072-681-4

Perfect score: 640

Sequence: 1 PHSDPARRGELSCVDSISEW.....GWRFRIDTSCVLTITKGR 119

Scoring table: BIOSUM62

Gapop 10.0, Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Database : PIR_73:*

1: p1r1:*
2: p1r2:*
3: p1r3:*
4: p1r4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	622.5	97.3	247	2 A40304	brain-derived neur
2	622.5	97.3	249	2 S12555	brain-derived neur
3	622.5	97.3	249	2 B40304	brain-derived neur
4	622.5	97.3	252	2 A30361	brain-derived neur
5	613.5	95.9	248	2 JC6183	brain-derived neur
6	594	92.8	114	2 I84765	brain-derived neur
7	570.5	89.1	269	2 I51708	brain-derived neur
8	564	88.1	114	2 I50606	brain-derived neur
9	559	87.3	114	2 I51599	brain-derived neur
10	375.5	58.7	236	2 JH0400	neurotrophin-4 pre
11	344.5	53.8	257	2 T40304	neurotrophin-3 pre
12	344.5	53.8	257	2 I50400	neurotrophin-3 pre
13	344.5	53.8	258	2 S09155	neurotrophin-3 pre
14	344.5	53.8	282	2 A35781	hippocampus-derive
15	336.5	52.6	209	2 B42687	neurotrophin-4 pre
16	332.5	52.0	210	2 A42687	neurotrophin-4 pre
17	317	49.5	229	2 A46614	nerve growth facto
18	317	49.5	223	2 A26311	nerve growth facto
19	313	48.9	125	2 A26311	nerve growth facto
20	311.5	48.7	286	2 NGHUBA	nerve growth facto
21	310	48.4	303	1 NGHUBA	nerve growth facto
22	308.5	48.2	235	2 S14481	nerve growth facto
23	308.5	48.2	245	2 I54570	nerve growth facto
24	308.5	48.2	307	1 NGHUBA	nerve growth facto
25	306.5	47.9	241	2 JL0097	nerve growth facto
26	301.5	47.1	243	2 I51193	nerve growth facto
27	300.5	47.0	117	2 S28161	nerve growth facto
28	298	46.6	116	1 NGHUBA	nerve growth facto
29	295.5	46.2	116	2 A58566	nerve growth facto

ALIGNMENTS

```

30 295.5 46.2 246 2 A59218
31 254 39.7 286 2 S50855
32 253.5 39.6 194 2 I51709
33 74 11.6 796 2 H82406
34 69.5 10.9 184 2 G83591
35 69 10.8 476 2 T29463
36 69 10.8 481 2 H75158
37 69 10.8 1006 2 T13331
38 68 10.6 195 2 S77401
39 68 10.6 245 1 PSNUM
40 68 10.6 245 2 A47389
41 68 10.6 245 2 S65013
42 68 10.6 294 2 T34199
43 68 10.6 347 2 S60428
44 68 10.6 479 2 A97027
45 67.5 10.5 1039 2 C87083

RESULT 1
A40304
brain-derived neurotrophic factor precursor - human
C:Species: Homo sapiens (man)
C>Date: 03-Apr-1992 #sequence_revision 30-Sep-1993 #text_change 21-Jul-2000
C:Accession: B36208; A60536; A40304; A37218; A61115; I38072
R:Jones, K.R.; Reichardt, L.F.
Proc. Natl. Acad. Sci. U.S.A. 87, 8060-8064, 1990
A:Title: Molecular cloning of a human gene that is a member of the nerve growth facto
A:Reference number: A36208; MUID:91045937; PMID:2236018
A:Accession: B36208
A:Molecule type: DNA
A:Residues: 1-247 <JON>
A:Cross-references: GB:M37762; NID:q179402; PIDN:AA51820.1; PID:q179403
R:Yancopoulos, G.D.; Matsoulopoulos, P.C.; Ip, N.Y.; Aldrich, T.H.; Belluscio, L.; Boul
Cold Spring Harb. Symp. Quant. Biol. 55, 371-379, 1990
A:Title: Neurotrophic factors, their receptors, and the signal transduction pathways
A:Reference number: A60536; MUID:9211157; PMID:1966766
A:Accession: A60536
A>Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 1-65, 'M', 67-247 <YAN>
R:Matsoulopoulos, P.C.; Le Beau, M.M.; Espinosa III, R.; Ip, N.Y.; Belluscio, L.; de la
Genomics 10, 558-568, 1991
A:Title: Human and rat brain-derived neurotrophic factor and neurotrophin-3: gene str
A:Reference number: A40304; MUID:91365361; PMID:1889806
A:Accession: A40304
A:Molecule type: mRNA
A:Residues: 1-247 <MAI>
A:Cross-references: GB:M61176; NID:q179404; PIDN:AA659805.1; PID:9896463
A:Note: The sequence in GenBank entry HUMBNFB, release 106.0, (PID:9896463) begins t
R:Yamamoto, H.; Gurney, M.E.
J. Neurosci. 10, 3469-3478, 1990
A:Title: Human platelets contain brain-derived neurotrophic factor.
A:Reference number: A37218; MUID:91038253; PMID:22309338
A:Accession: A37218
A>Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 138-236 <YAN>
R:Roessli, A.; Goeddel, D.V.; Nguyen, T.; Martin, E.; Burton, L.E.; Shih, A.; Laram
Endocrinology 129, 1289-1294, 1991
A:Title: Primary structure and biological activity of human brain-derived neurotrophin
A:Reference number: A61115; MUID:91339743; PMID:1874171
A:Accession: A61115
A>Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-65, 'M', 67-247 <ROS>
R:Shintani, A.; Ono, Y.; Kaisho, Y.; Igarashi, K.
Biochem. Biophys. Res. Commun. 182, 325-332, 1992
A:Title: Characterization of the 5'-flanking region of the human brain-derived neurot
A:Reference number: I38072; MUID:92118032; PMID:1339267
A:Accession: I38072

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A:Status: translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-247 <SH1>
A:Cross-references: EMBL:X60201; NID:g3928269; PIDN:CAA47481.1; PID:g496626
A:Note: the authors do not discuss this mRNA sequence in this reference; attribution is
C:Genetics:
A:Gene: BDNF
A:Cross-references: GDB:125916; OMIM:113505
A:Map position: 11p13-11p13
C:Superfamily: nerve growth factor beta chain
C:Keywords: dimer; glycoprotein
F:1-16/Domain: signal sequence #status predicted <SIG>
F:1-128/Domain: propeptide #status predicted <PRO>
F:129-247/Product: brain-derived neurotrophic factor #status predicted <MNF>
F:121/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match      97.3%; Score 622.5; DB 2; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.1e-56;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCDISSEMTAAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 61
|||||
DB 129 HSDPARGELSVCDISSEMTAAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 188
|||||

OY 62 MGYTKGCGRGIDKRHMNSCRRTOGYVRAALTMDSKKRIGMRFIRIDTSCV-TLTIRGR 119
|||||
DB 169 MGYTKGCGRGIDKRHMNSCRRTOGYVRAALTMDSKKRIGMRFIRIDTSCVCTLTIRGR 247
|||||

RESULT 2
S12555
brain-derived neurotrophic factor - mouse
N:Alternate names: BDNF protein
C:Species: Mus musculus (house mouse)
C:Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 16-Jul-1999
A:Accession: S12555; S1180; S1181
R:Hofer, M.; Pagliusi, S.R.; Hohn, A.; Leibrock, J.; Barde, Y.A.
EMBO J. 9, 2459-2464, 1990
A:Title: Regional distribution of brain-derived neurotrophic factor mRNA in the adult mc
A:Reference number: S12555; MUID:90316101; PMID:2369898
A:Accession: S12555
A:Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-249 <HOF>
A:Cross-references: GB:X55573; NID:g287898; PIDN:CAA39159.1; PID:g287899
R:Kolbeck, R.; Jungbluth, S.; Barde, Y.A.
Eur. J. Biochem. 225, 995-1003, 1994
A:Title: Characterisation of neurotrophin dimers and monomers.
A:Reference number: S11179; MUID:95045576; PMID:7957235
A:Accession: S11180
A:Status: preliminary
A:Molecule type: protein
A:Residues: 131-135 <KOL>
A:Accession: S11181
A:Status: preliminary
A:Molecule type: protein
A:Residues: 112-121 <KO2>
C:Superfamily: nerve growth factor beta chain

Query Match      97.3%; Score 622.5; DB 2; Length 249;
Best Local Similarity 99.2%; Pred. No. 1.1e-56;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCDISSEMTAAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 61
|||||
DB 131 HSDPARGELSVCDISSEMTAAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 190
|||||

OY 62 MGYTKGCGRGIDKRHMNSCRRTOGYVRAALTMDSKKRIGMRFIRIDTSCV-TLTIRGR 119
|||||
DB 191 MGYTKGCGRGIDKRHMNSCRRTOGYVRAALTMDSKKRIGMRFIRIDTSCVCTLTIRGR 249
|||||

RESULT 3
A:Status: translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-249 <SH1>
A:Cross-references: EMBL:X60201; NID:g3928269; PIDN:CAA47481.1; PID:g496626
A:Note: the authors do not discuss this mRNA sequence in this reference; attribution is
C:Genetics:
A:Gene: BDNF
A:Cross-references: GDB:125916; OMIM:113505
A:Map position: 11p13-11p13
C:Superfamily: nerve growth factor beta chain
C:Keywords: dimer; glycoprotein
F:1-16/Domain: signal sequence #status predicted <SIG>
F:1-128/Domain: propeptide #status predicted <PRO>
F:129-247/Product: brain-derived neurotrophic factor #status predicted <MNF>
F:121/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match      97.3%; Score 622.5; DB 2; Length 249;
Best Local Similarity 99.2%; Pred. No. 1.1e-56;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCDISSEMTAAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 61
|||||
DB 131 HSDPARGELSVCDISSEMTAAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCNP 190
|||||

OY 62 MGYTKGCGRGIDKRHMNSCRRTOGYVRAALTMDSKKRIGMRFIRIDTSCV-TLTIRGR 119
|||||
DB 191 MGYTKGCGRGIDKRHMNSCRRTOGYVRAALTMDSKKRIGMRFIRIDTSCVCTLTIRGR 249
|||||

RESULT 4
A30361
brain-derived neurotrophic factor precursor - pig
C:Species: Sus scrofa domestica (domestic pig)
C:Date: 18-Oct-1989 #sequence_revision 18-Oct-1989 #text_change 16-Jul-1999
A:Accession: A30361
R:Leibrock, J.; Lottspesch, F.; Hohn, A.; Hofer, M.; Hengeler, B.; Masiakowski, P.; T
Nature 341, 149-152, 1989
A:Title: Molecular cloning and expression of brain-derived neurotrophic factor.
A:Reference number: A30361; MUID:89384868; PMID:2779653

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A:Accession: A30361
A:Molecule type: mRNA
A:Residues: 1-252 <LEI>
A:Cross-references: GB:X16713; NID:q1903; PIDN:CAA43685.1; PID:q1904
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor
F:126/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 97.3%; Score 622.5; DB 2; Length 252;
Best Local Similarity 99.2%; Pred. No. 1.1e-56;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARRELSVCDISSEMTAAADKKTAVDMSCGTVTVLEKVPVSKGOLKQYFETKCNP 61
Db 134 HSDPARRELSVCDISSEMTAAADKKTAVDMSCGTVTVLEKVPVSKGOLKQYFETKCNP 193
OY 62 MGYTKEGCGIDKRRHNSQCRRTQSYVRALTMDSKKRIGMFRIRIDTSCV-TLTIKRGR 119
Db 194 MGYTKEGCGIDKRRHNSQCRRTQSYVRALTMDSKKRIGMFRIRIDTSCVTLTIKRRGR 252

RESULT 5
JC6183
brain-derived neurotrophic factor precursor - bovine
C:Species: Bos primigenius taurus (cattle)
C:Date: 02-Sep-1997 #sequence_revision 05-Sep-1997 #text_change 20-Jun-2000
C:Accession: JC6183
R:Arab S.F.; Krohn, K.; Lachmund, A.; Unsicker, K.; Suter-Crazzolara, C.
Gene 185; 95-98, 1997
A:Title: The gene encoding bovine brain-derived neurotrophic factor (BDNF).
A:Reference number: JC6183; MUID:97186702; PMID:9034318
A:Accession: JC6183
A:Molecule type: mRNA
A:Residues: 1-248 <ARA>
A:Cross-references: EMBL:X97914; NID:q1668709; PIDN:CAA66488.1; PID:q1668710
C:Experimental source: adrenal glands
C:Comment: This factor plays the essential roles in the regulation of neuron survival and dopaminergic, glutamatergic, and cholinergic neurons, and it is effective in the treatment of neurotrophic factor
C:Keywords: neurotrophic factor
F:1-16/Domain: signal sequence #status predicted <SIG>
F:17-248/Product: brain-derived neurotrophic factor #status predicted <MAT>
F:198-211/Region: nerve growth factor signature

Query Match 95.9%; Score 613.5; DB 2; Length 248;
Best Local Similarity 97.5%; Pred. No. 9.1e-56;
Matches 116; Conservative 1; Mismatches 1; Indels 1; Gaps 1;

OY 2 HSDPARRELSVCDISSEMTAAADKKTAVDMSCGTVTVLEKVPVSKGOLKQYFETKCNP 61
Db 130 HSDPARRELSVCDISSEMTAAADKKTAVDMSCGTVTVLEKVPVSKGOLKQYFETKCNP 189
OY 62 MGYTKEGCGIDKRRHNSQCRRTQSYVRALTMDSKKRIGMFRIRIDTSCV-TLTIKRGR 119
Db 190 MGYTKEGCGIDKRRHNSQCRRTQSYVRALTMDSKKRIGMFRIRIDTSCVTLTIKRRGR 248

RESULT 6
I84765
brain-derived neurotrophic factor - rhesus macaque (fragment)
C:Species: Macaca mulatta (rhesus macaque)
C:Date: 04-Sep-1997 #sequence_revision 13-Mar-1998 #text_change 16-Jul-1999
C:Accession: I84765
R:Jackson, P.J.; Townner, M.D.; Huntsman, M.M.
FEBS Lett. 285; 260-264, 1991
A:Title: Comparison of mammalian, chicken and Xenopus brain-derived neurotrophic factor
A:Reference number: I50606; MUID:91309745; PMID:1906813
A:Accession: I84765
A:Molecule type: preliminary
A:Status: preliminary
A:Residues: 1-114 <ISA>
A:Cross-references: EMBL:X61475; NID:q288317; PIDN:CAA43703.1; PID:q288318
C:Superfamily: nerve growth factor beta chain

C:Keywords: brain; growth factor

Query Match 92.8%; Score 594; DB 2; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.1e-54;
Matches 110; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 HSDPARRELSVCDISSEMTAAADKKTAVDMSCGTVTVLEKVPVSKGOLKQYFETKCNP 61
Db 2 HSDPARRELSVCDISSEMTAAADKKTAVDMSCGTVTVLEKVPVSKGOLKQYFETKCNP 61
OY 62 MGYTKEGCGIDKRRHNSQCRRTQSYVRALTMDSKKRIGMFRIRIDTSCV 111
Db 62 MGYTKEGCGIDKRRHNSQCRRTQSYVRALTMDSKKRIGMFRIRIDTSCV 111

RESULT 7
I51708
brain-derived neurotrophic factor precursor - southern platyfish
C:Species: Xiphophorus maculatus (southern platyfish)
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: I51708; S26673
R:Gotz, R.; Raulf, F.; Schartl, M.
J. Neurochem. 59; 432-442, 1992
A:Title: Brain-derived neurotrophic factor is more highly conserved in structure and
A:Reference number: I51708; MUID:92333301; PMID:1629719
A:Accession: I51708
A:Status: translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-269 <GOT>
A:Cross-references: EMBL:X59942; NID:q65275; PIDN:CAA42567.1; PID:q65276
C:Gene: BDNF
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-18/Domain: signal sequence #status predicted <SIG>
F:19-150/Domain: propeptide #status predicted <PRO>
F:151-269/Product: brain-derived neurotrophic factor #status predicted <MAT>
F:143/Binding site: carbohydrate (Asn) (covalent) #status predicted
F:163-220,208-259,218-261/Disulfide bonds: #status predicted

Query Match 89.1%; Score 570.5; DB 2; Length 269;
Best Local Similarity 89.1%; Pred. No. 2.7e-51;
Matches 106; Conservative 7; Mismatches 5; Indels 1; Gaps 1;

OY 2 HSDPARRELSVCDISSEMTAAADKKTAVDMSCGTVTVLEKVPVSKGOLKQYFETKCNP 61
Db 151 HSDPARRELSVCDISSEMTAAADKKTAVDMSCGTVTVLEKVPVSKGOLKQYFETKCNP 210
OY 62 MGYTKEGCGIDKRRHNSQCRRTQSYVRALTMDSKKRIGMFRIRIDTSCV-TLTIKRGR 119
Db 211 MGYTKEGCGIDKRRHNSQCRRTQSYVRALTMDSKKRIGMFRIRIDTSCVTLTIKRRGR 269

RESULT 8
I50606
brain-derived neurotrophic factor - chicken (fragment)
C:Species: Gallus gallus (chicken)
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: I50606
R:Jackson, P.J.; Townner, M.D.; Huntsman, M.M.
FEBS Lett. 285; 260-264, 1991
A:Title: Comparison of mammalian, chicken and Xenopus brain-derived neurotrophic factor
A:Reference number: I50606; MUID:91309745; PMID:1906813
A:Accession: I50606
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-114 <ISA>
A:Cross-references: EMBL:X61476; NID:q288305; PIDN:CAA43704.1; PID:q288306
C:Superfamily: nerve growth factor beta chain

Query Match 88.1%; Score 564; DB 2; Length 114;
Best Local Similarity 93.6%; Pred. No. 5.1e-51;
Matches 103; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

OY 2 HSDPARGELSVCDSEWYTAADKKTAVDMSCGTYVLEKVPVSKGOLKQYFETKCNP 61
DB 2 HSDPARGELSVCDSEWYTAADKKTAVDMSCGTYVLEKVPVSKGOLKQYFETKCNP 61
OY 62 MGYKRCGRIDKRNHNSOCTRTQSYVALTMDSKKRIGRFRIDTSCV 111
DB 62 KGYKRCGRIDKRNHNSOCTRTQSYVALTMDSKKRIGRFRIDTSCV 111

RESULT 9

brain-derived neurotrophic factor - African clawed frog (fragment)
C:Species: Xenopus laevis (African clawed frog)
C>Date: 13-Sep-1996 #sequence, revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: 151599
R:Jackson, P.J.; Townes, M.D.; Huntsman, M.M.
FEBS Lett. 285, 260-264, 1991
A:Title: Comparison of mammalian, chicken and Xenopus brain-derived neurotrophic factor
A:Reference number: 150606; MUID:91309745; PMID:1996813
A:Accession: 151599
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-114 <15A>
A:Cross-references: EMBL:X61477; NID:9288363; PIDN:CAA43705.1; PID:9288364
C:Superfamily: nerve growth factor beta chain

Query Match 87.3%; Score 559; DB 2; Length 114;
Best Local Similarity 92.7%; Pred. No. 1.7e-50;
Matches 102; Conservative 5; Mismatches 3; Indels 0; Gaps 0;

OY 2 HSDPARGELSVCDSEWYTAADKKTAVDMSCGTYVLEKVPVSKGOLKQYFETKCNP 61
DB 2 HSDPARGELSVCDSEWYTAADKKTAVDMSCGTYVLEKVPVSKGOLKQYFETKCNP 61
OY 62 MGYKRCGRIDKRNHNSOCTRTQSYVALTMDSKKRIGRFRIDTSCV 111
DB 62 MGYKRCGRIDKRNHNSOCTRTQSYVALTMDSKKRIGRFRIDTSCV 111

RESULT 10

neurotrophin-4 precursor - African clawed frog
C:Species: Xenopus laevis (African clawed frog)
C>Date: 31-Dec-1991 #sequence, revision 31-Dec-1991 #text_change 16-Jul-1999
C:Accession: JH0400
R:Hallboeek, F.; Ibanez, C.F.; Persson, H.
Neuron 6, 845-858, 1991
A:Title: Evolutionary studies of the nerve growth factor family reveal a novel member at
A:Reference number: JH0400; MUID:91222573; PMID:2025430
A:Accession: JH0400
A:Molecule type: DNA
A:Residues: 1-236 <HAI>
A:Cross-references: GB:230090; NID:9455533; PIDN:CAA82906.1; PID:9455534
C:Comment: This protein belongs to the nerve growth factor family.
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-18/Domain: signal sequence #status predicted <SIG>
F:19-113/Domain: propeptide #status predicted <PRO>
F:114-236/Product: neurotrophin-4 #status predicted <MAT>
F:106/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 58.7%; Score 375.5; DB 2; Length 236;
Best Local Similarity 60.9%; Pred. No. 3.2e-31;
Matches 70; Conservative 18; Mismatches 24; Indels 3; Gaps 2;

OY 6 ARGELSVCDSEWYTAADKKTAVDMSCGTYVLEKVPVSKGOLKQYFETKCNPMGYT 65
DB 123 SRGELSVCDSEWYTAADKKTAVDMSCGTYVLEKVPVSKGOLKQYFETKCNPMGYT 180
OY 66 KEGCRIDKRNHNSOCTRTQSYVALTMDSKKRIGRFRIDTSCV-TLTIKGR 119
DB 181 TRCGRGVDMKRWISCKAKOSYVALTMDSKKRIGRFRIDTSCV-TLTIKGR 235

RESULT 11

neurotrophin-3 precursor - human
C:Accession: C40304
N:Alternate names: nerve growth factor 2; NGF-2
C:Species: Homo sapiens (man)
C>Date: 03-Apr-1992 #sequence, revision 30-Sep-1993 #text_change 16-Jul-1999
C:Accession: A36208; JH0141; C40304; S10719; C60536
R:Jones, K.R.; Reichardt, L.F.
Proc. Natl. Acad. Sci. U.S.A. 87, 8060-8064, 1990
A:Title: Molecular cloning of a human gene that is a member of the nerve growth factor
A:Reference number: A36208; MUID:91045937; PMID:2236018
A:Accession: A36208
A:Molecule type: DNA
A:Residues: 1-257 <ION>
A:Cross-references: GB:A37763; NID:9189300; PIDN:AAA59953.1; PID:9189301
R:Rosenthal, A.; Goeddel, D.V.; Nguyen, T.; Lewis, M.; Shih, A.; Laramée, G.R.; Nikol
Neuron 4, 767-773, 1990
A:Title: Primary structure and biological activity of a novel human neurotrophic fact
A:Reference number: JH0141; MUID:90262727; PMID:2344409
A:Accession: JH0141
A:Molecule type: DNA
A:Residues: 1-257 <ROS>
R:Matsonpietre, P.C.; Le Beau, M.M.; Espinosa III, R.; Ip, N.Y.; Belluscio, L.; de la
Genomics 10, 558-568, 1991
A:Reference number: A40304; MUID:91365361; PMID:1889806
A:Accession: C40304
A:Molecule type: DNA
A:Residues: 1-257 <KAI>
A:Cross-references: GB:M61180; NID:9189302; PIDN:AAA63231.1; PID:9189303
R:Kasho, Y.; Yoshimura, K.; Nakahama, K.
FEBS Lett. 266, 187-191, 1990
A:Title: Cloning and expression of a cDNA encoding a novel human neurotrophic factor.

A:Reference number: S10719; MUID:90306351; PMID:2365067
A:Accession: S10719
A:Molecule type: mRNA
A:Residues: 1-257 <KAI>
A:Cross-references: GB:X53655; NID:9287794; PIDN:CAA37703.1; PID:9287795
R:Yancopoulos, G.D.; Matsonpietre, P.C.; Ip, N.Y.; Aldrich, T.H.; Belluscio, L.; Boul
Cold Spring Harb. Symp. Quant. Biol. 55, 371-379, 1990
A:Title: Neurotrophic factors, their receptors, and the signal transduction pathways
A:Reference number: A60536; MUID:9211157; PMID:1966766
A:Accession: C60536
A:Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 1-73, 'Q', '75-77', 'R', '79-108', 'T', '110-257' <YAN>
A:Gene: GDB: NTF3
C:Genetics:
A:Cross-references: GDB:125917; OMIM:162660
A:Map position: 12p13-12p13
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-18/Domain: signal sequence #status predicted <SIG>
F:19-138/Domain: propeptide #status predicted <PRO>
F:139-257/Product: neurotrophin-3 #status predicted <MAT>
F:131/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 53.8%; Score 344.5; DB 2; Length 257;
Best Local Similarity 57.4%; Pred. No. 5.5e-28;
Matches 66; Conservative 17; Mismatches 29; Indels 3; Gaps 2;

OY 6 ARGELSVCDSEWYTAADKKTAVDMSCGTYVLEKVPVSKGOLKQYFETKCNPMGYT 65
DB 144 SRGELSVCDSEWYTAADKKTAVDMSCGTYVLEKVPVSKGOLKQYFETKCNPMGYT 201
OY 66 KEGCRIDKRNHNSOCTRTQSYVALTMDSKKRIGRFRIDTSCV-TLTIKGR 119
DB 202 KEGCRIDKRNHNSOCTRTQSYVALTMDSKKRIGRFRIDTSCV-TLTIKGR 256

RESULT 12

150400
neurotrophin-3 precursor - chicken
C:Species: Gallus gallus (chicken)
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: 150400; S42227
R:Maizompiere, P.C.; Belluscio, L.; Conover, J.C.; Yancopoulos, G.D.
DNA Seq. 3, 49-54, 1992
A:Title: Gene sequences of chicken BDNF and NT-3.
A:Reference number: 150400; PMID:93091238; PMID:1457809
A:Accession: 150400
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-257 <NAI>
A:Cross-references: GB:M83378; NID:g212464; PIDN:AAA6880.1; PID:g212465
R:Hallboeck, F.; Ibanez, C.F.; Ebdanal, T.; Persson, H.
Eur. J. Neurosci. 5, 1-14, 1993
A:Title: Cellular localization of brain-derived neurotrophic factor and neurotrophin-3
A:Reference number: S42227; PMID:94084226; PMID:8074744
A:Accession: S42227
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 32-257 <NAI>
A:Cross-references: EMBL:230092; NID:g455531; PIDN:CAA82908.1; PID:g927570
C:Genetics:
A:Gene: NT-3
C:Superfamily: nerve growth factor beta chain

Query Match 53.8%; Score 344.5; DB 2; Length 257;
Best Local Similarity 57.4%; Pred. No. 5.5e-28;
Matches 66; Conservative 17; Mismatches 29; Indels 3; Gaps 2;

QY 6 ARGGLSVCSISEWYTAADKTAVDMSGCTVYLEKVPVSKGOLKQYFETKCNPMGYT 65
Db 144 SHGGEYSVCSESLMT--DKSSAIDIRGHQVYVLGKIKGNSPVKQYFETCKEAKPV 201
QY 66 KECRCGIDKRRHNSQCTRTQSYRALTMDSKKRIGRFIRIDSCV-TLTIKGR 119
Db 202 KNCRCGIDKRRHNSQCTRTQSYRALTMDSKKRIGRFIRIDSCV-TLTIKGR 256

RESULT 13
S09155
neurotrophin-3 precursor - mouse
C:Species: Mus musculus (house mouse)
C:Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 16-Jul-1999
C:Accession: S09155; S51179
R:Ohn, A.; Leibrock, J.; Bailey, K.; Barde, Y.A.
Nature 344, 339-341, 1990
A:Title: Identification and characterization of a novel member of the nerve growth factor
A:Reference number: S09155; PMID:90190865; PMID:2314473
A:Accession: S09155
A:Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 1-258 <NO>
A:Cross-references: GB:X53257; NID:g53451; PIDN:CAA37348.1; PID:g53452
R:Kolbeck, R.; Junghuth, S.; Barde, Y.A.
Eur. J. Biochem. 225, 995-1003, 1994
A:Title: Characterization of neurotrophin dimers and monomers.
A:Reference number: S51179; PMID:95045576; PMID:7957235
A:Accession: S51179
A:Status: preliminary
A:Molecule type: protein
A:Residues: 140-152 <KOL>
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-18/Domain: signal sequence #status predicted <SIG>
F:140-258/Product: neurotrophin-3 #status predicted <MAT>
F:131/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 53.8%; Score 344.5; DB 2; Length 258;
Best Local Similarity 57.4%; Pred. No. 5.5e-28;
Matches 66; Conservative 17; Mismatches 29; Indels 3; Gaps 2;

QY 6 ARGGLSVCSISEWYTAADKTAVDMSGCTVYLEKVPVSKGOLKQYFETKCNPMGYT 65
Db 145 SHGGEYSVCSESLMT--DKSSAIDIRGHQVYVLGKIKGNSPVKQYFETCKEAKPV 202
QY 66 KECRCGIDKRRHNSQCTRTQSYRALTMDSKKRIGRFIRIDSCV-TLTIKGR 119
Db 203 KNCRCGIDKRRHNSQCTRTQSYRALTMDSKKRIGRFIRIDSCV-TLTIKGR 257

RESULT 14
A35781
hippocampus-derived neurotrophic factor precursor - rat
N:Alternate names: neurotrophin-3 precursor
C:Species: Rattus norvegicus (Norway rat)
C:Date: 05-Oct-1990 #sequence_revision 05-Oct-1990 #text_change 16-Jul-1999
C:Accession: A35781; A40094
R:Enfors, P.; Ibanez, C.F.; Ebdanal, T.; Olson, L.; Persson, H.
Proc. Natl. Acad. Sci. U.S.A. 87, 5454-5458, 1990
A:Title: Molecular cloning and neurotrophic activities of a protein with structural s
A:Reference number: A35781; PMID:90319130; PMID:2164684
A:Accession: A35781
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-282 <ERN>
A:Cross-references: GB:M34643
R:Maizompiere, P.C.; Belluscio, L.; Squinto, S.; Ip, N.Y.; Furch, M.E.; Lindsay, R.M.
Science 247, 1446-1451, 1990
A:Title: Neurotrophin-3: a neurotrophic factor related to NGF and BDNF.
A:Reference number: A40094; PMID:90208301; PMID:2321006
A:Accession: A40094
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 25-282 <NAI>
A:Cross-references: GB:M33968; NID:g205771; PIDN:AAA41727.1; PID:g205772
C:Superfamily: nerve growth factor beta chain

Query Match 53.8%; Score 344.5; DB 2; Length 282;
Best Local Similarity 57.4%; Pred. No. 6e-28;
Matches 66; Conservative 17; Mismatches 29; Indels 3; Gaps 2;

QY 6 ARGGLSVCSISEWYTAADKTAVDMSGCTVYLEKVPVSKGOLKQYFETKCNPMGYT 65
Db 169 SHGGEYSVCSESLMT--DKSSAIDIRGHQVYVLGKIKGNSPVKQYFETCKEAKPV 226
QY 66 KECRCGIDKRRHNSQCTRTQSYRALTMDSKKRIGRFIRIDSCV-TLTIKGR 119
Db 227 KNCRCGIDKRRHNSQCTRTQSYRALTMDSKKRIGRFIRIDSCV-TLTIKGR 281

RESULT 15
B42687
neurotrophin-4 precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 16-Jul-1999
C:Accession: B42687; JH0504; JH0505
R:Berkeleier, L.R.; Winslow, J.W.; Kaplan, D.R.; Nikolic, R.; Goeddel, D.V.; Rosenthal
Neuron 7, 857-866, 1991
A:Title: Mammalian neurotrophin-4: structure, chromosomal localization, tissue distri
A:Reference number: A42687; PMID:92212967; PMID:1313578
A:Accession: B42687
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-209 <IPA>
A:Cross-references: GB:M86742; NID:g205775; PIDN:AAA1728.1; PID:g205776
R:Berkeleier, L.R.; Winslow, J.W.; Kaplan, D.R.; Nikolic, R.; Goeddel, D.V.; Rosenthal
Neuron 7, 857-866, 1991
A:Title: Mammalian neurotrophin-4: structure, chromosomal localization, tissue distri
A:Reference number: JH0503; PMID:92075279; PMID:1742028
A:Accession: JH0504
A:Molecule type: DNA
A:Residues: 1-209 <BER>
A:Accession: JH0505
A:Molecule type: mRNA

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 ; Search time 4.88277 Seconds

(without alignments)
1010.837 Million cell updates/sec

Title: US-10-072-681-4

Perfect score: 640
Sequence: 1 PHSDPARRELSTVCDISEM.....GMRFRIDSCVLTIRKGR 119

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Maximum Match 0%
Listing first 45 summaries

Database: SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	622.5	97.3	247	1	BDNF_HUMAN
2	622.5	97.3	247	1	BDNF_PROLO
3	622.5	97.3	247	1	BDNF_URSML
4	622.5	97.3	249	1	BDNF_MOUSE
5	622.5	97.3	249	1	BDNF_RAT
6	622.5	97.3	252	1	BDNF_PIG
7	621.5	97.1	255	1	BDNF_CAVPO
8	618.5	96.6	247	1	BDNF_FELCA
9	618.5	96.6	247	1	BDNF_URSAR
10	613.5	95.9	248	1	BDNF_BOVIN
11	594	92.8	114	1	BDNF_MACMU
12	592.5	92.6	246	1	BDNF_CHICK
13	579.5	90.5	270	1	BDNF_CYPCA
14	570.5	89.1	269	1	BDNF_XIPMA
15	559	87.3	114	1	BDNF_XENLA
16	375.5	58.7	236	1	NT4_XENLA
17	344.5	53.8	257	1	NT3_CHICK
18	344.5	53.8	257	1	NT3_HUMAN
19	344.5	53.8	258	1	NT3_MOUSE
20	344.5	53.8	258	1	NT3_RAT
21	342.5	53.0	260	1	NT3_XENLA
22	339.5	52.6	257	1	NT3_FELCA
23	336.5	52.6	209	1	NT5_RAT
24	332.5	52.0	210	1	NT5_HUMAN
25	317	49.5	229	1	NGF_PIG
26	317	49.5	243	1	NGF_CHICK
27	311.5	48.7	241	1	NGF_HUMAN
28	310	48.4	231	1	NGF_BOVIN
29	310	48.4	241	1	NGF_PRANA
30	308.5	48.2	231	1	NGF_XENLA
31	308.5	48.2	241	1	NGF_MOUSE
32	308.5	48.2	241	1	NGF_RAT
33	306.5	47.9	241	1	NGF_CAVPO

34	301.5	47.1	243	1	NGF_BUNMU
35	300.5	47.0	117	1	NGF_DABRR
36	295	46.1	116	1	NGF_NAJNA
37	292.5	45.7	116	1	NGF_NAJAT
38	253.5	39.6	194	1	NGF_XIPMA
39	245	38.3	140	1	NT7_CYPCA
40	245	38.3	233	1	NT7_BRARE
41	222	34.7	186	1	NT6G_HUMAN
42	221	34.5	257	1	NT6A_HUMAN
43	215	33.6	257	1	BDNF_HUMAN
44	214	33.4	43	1	BDNF_RAVCL
45	209	32.7	43	1	BDNF_VIPLE

ALIGNMENTS

RESULT 1
BDNF_HUMAN STANDARD; PRT: 247 AA.
AC P23560; O9UC24; Q9BY7;
DT 01-NOV-1991 (Rel. 20, Created)
DT 01-NOV-1991 (Rel. 20, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=91045937; PubMed=2236018;
RA Jones K.R., Reichardt L.F.;
RT "Molecular cloning of a human gene that is a member of the nerve growth factor family";
RL Proc. Natl. Acad. Sci. U.S.A. 87:8060-8064(1990).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=91365361; PubMed=1889806;
RA Maisonnier P.C., Le Beau M.M., Espinosa R. III, Ip N.Y.,
RA Belluscio L., de la Monte S.M., Squinto S., Furth M.E.,
RA Vancopoulos G.D.;
RT "Human and rat brain-derived neurotrophic factor and neurotrophin-3: gene structures, distributions, and chromosomal localizations";
RL Genomics 10:558-568(1991).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=92118032; PubMed=1339267;
RA Shintani A., Ono Y., Kaisho Y., Igarashi K.;
RT "Characterization of the 5'-flanking region of the human brain-derived neurotrophic factor gene";
RL Biochem. Biophys. Res. Commun. 182:325-332(1992).
RN [4]
RP SEQUENCE FROM N.A.
RX Cheng Y., Gu J.;
RT Submitted (MAR-1995) to the EMBL/GenBank/DBJ databases.
RN [5]
RP SEQUENCE FROM N.A.
RX Wu J., Zhang B., Zhou Y., Peng X., Yuan J., Qiang B.;
RT Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
RN [6]
RP SEQUENCE OF 185-227 FROM N.A.
RX TISSUE-Leukocyte;
RA MEDLINE=9122573; PubMed=2025430;
RT Halboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a novel member abundantly expressed in Xenopus ovary";
RN Neuron 6:845-858(1991).
RN [7]
RP SEQUENCE OF 129-144.
RX TISSUE-Serum;
RA MEDLINE=96136633; PubMed=8527932;

RA Rosenfeld R.D., Zenl L., Haniu M., Talvenheimo J., Radka S.F.,
 RA Bennett L., Miller J.A., Welcher A.A.;
 RT "Purification and identification of brain-derived neurotrophic factor
 RT from human serum.";
 RL Protein Expr. Purif. 6:465-471(1995).
 RN [8]
 RP SEQUENCE OF 12-197 FROM N.A.
 RX MEDLINE=21082082; PubMed=11214319;
 RA Murphy W.J., Elzirik E., Johnson W.E., Zhang Y.P., Ryder O.A.,
 RA O'Brien S.J.;
 RT "Molecular phylogenetics and the origins of placental mammals.";
 RL Nature 409:614-618(2001).
 RN [9]
 RP X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).
 RX MEDLINE=95217877; PubMed=7703225;
 RA Robinson R.C., Radziejewski C., Stuart D.I., Jones E.Y.;
 RT "Structure of the brain-derived neurotrophic factor/neurotrophin 3
 RT heterodimer.";
 RL Biochemistry 34:4139-4146(1995).
 RN [10]
 RP CHARACTERIZATION, AND MUTAGENESIS OF ARG-54.
 RX MEDLINE=21201090; PubMed=1152678;
 RA Mowla S.J., Farhadi H.F., Pareek S., Atwal J.K., Morris S.J.,
 RA Seidan N.G., Murphy R.A.;
 RT "Biosynthesis and post-translational processing of the precursor to
 RT brain-derived neurotrophic factor.";
 RL J. Biol. Chem. 276:12660-12666(2001).
 CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
 CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
 CC CONNECTED TO IT.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- PTM: The propeptide is N-glycosylated and glycosylated.
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
 CC -----
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 CC -----
 DR EMBL: M37762; AAA51820.1; -;
 DR EMBL: M61176; AAA69805.2; -;
 DR EMBL: X60201; CAA42761.1; -;
 DR EMBL: AF400438; AAK92487.1; -;
 DR EMBL: M61181; AAA96140.1; -;
 DR EMBL: X91251; CAA62632.1; -;
 DR EMBL: AY011481; AAG47514.1; -;
 DR PIR: B36208; B36208.
 DR PIR: A40304; A40304.
 DR PDB: 1BND; 04-APR-96.
 DR PDB: 1B8M; 09-FEB-99.
 DR Genew; HGNC:1033; BDNF.
 DR MIM: 113505; -;
 DR InterPro: IPR002072; NGF.
 DR Pfam: PF00243; NGF; 2.
 DR PRINTS: PR00268; NGF.
 DR ProDom: PD002052; NGF; 1.
 DR SMART: SM00140; NGF; 1.
 DR PROSITE: PS00248; NGF_1; 1.
 DR PROSITE: PS50270; NGF_2; 1.
 KW Growth factor; Signal; Glycoprotein; Polymorphism; 3D-structure.
 FT SIGNAL 1 18
 FT PROPEP 19 128
 FT CHAIN 129 247
 FT DISULFID 141 208
 FT DISULFID 186 237
 FT DISULFID 196 239
 FT CARBOHYD 121 121
 FT SITE 57 58
 FT VARIANT 66 66
 /FTID-VAR_004626.

FT VARIANT 75 75 O -> H (IN DBSNP:1048218).
 FT VARIANT 125 125 /FTID-VAR_011797.
 FT VARIANT 127 127 R -> M (IN DBSNP:1048220).
 FT VARIANT 127 127 /FTID-VAR_011798.
 FT VARIANT 127 127 /FTID-VAR_011799.
 FT MUTAGEN 54 54 R -> L (IN DBSNP:1048221).
 FT SEQUENCE 247 AA; 27818 MW; 0A6048254722A99 CRC64;
 SQ
 Query Match 97.3%; Score 622.5; DB 1; Length 247;
 Best Local Similarity 99.2%; Pred. No. 1e-58;
 Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;
 OY 2 HSDPARRBELSVCSISWYTAADKKTAVDMGGVYVLEKVPYSGGLKQYFETKCNP 61
 DB 129 HSDPARRBELSVCSISWYTAADKKTAVDMGGVYVLEKVPYSGGLKQYFETKCNP 188
 OY 62 MGYTEGCGRIDKRMNSQCRRTQSYVALTMDSKKRIGMFRIDTSCVTLTKRGR 119
 DB 189 MGYTEGCGRIDKRMNSQCRRTQSYVALTMDSKKRIGMFRIDTSCVTLTKRGR 247
 RESULT 2
 BDNF_PROLO
 ID BDNF_PROLO STANDARD; PRT; 247 AA.
 AC 018755;
 DT 15-JUL-1998 (Rel. 36, Created)
 DT 15-JUL-1998 (Rel. 36, Last sequence update)
 DT 15-JUN-2002 (Rel. 41, Last annotation update)
 DE Brain-derived neurotrophic factor precursor (BDNF).
 GN BDNF.
 OS Procyon lotor (Raccoon).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Procyonidae; Procyon.
 OX NCBI_TaxID=9654;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Lin F.;
 RL Submitted (MAY-1997) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
 CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
 CC CONNECTED TO IT (BY SIMILARITY).
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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 CC or send an email to license@isb-sib.ch).
 CC -----
 DR HSBP: AF003188; AAB71654.1; -;
 DR HSBP: P23560; 1B8M.
 DR InterPro: IPR002072; NGF.
 DR Pfam: PF00243; NGF; 1.
 DR PRINTS: PR00268; NGF.
 DR ProDom: PD002052; NGF; 1.
 DR SMART: SM00140; NGF; 1.
 DR PROSITE: PS00248; NGF_1; 1.
 DR PROSITE: PS50270; NGF_2; 1.
 KW Growth factor; Signal.
 FT SIGNAL 1 18
 FT PROPEP 19 128
 FT CHAIN 129 247
 FT DISULFID 141 208
 FT DISULFID 186 237
 FT DISULFID 196 239
 FT CARBOHYD 121 121
 FT SEQUENCE 247 AA; 27834 MW; 5FC377E4FE1F52A0 CRC64;
 /FTID-VAR_004626.

Query Match 97.3%; Score 622.5; DB 1; Length 247;
Best Local Similarity 99.2%; Pred. No. 1e-58;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCSISEWYTAADKKTAVDMGGTIVLEKVPVSKGOLKQYFETKCNP 61
DB 129 HSDPARGELSVCSISEWYTAADKKTAVDMGGTIVLEKVPVSKGOLKQYFETKCNP 188
DB 189 MGYTKREGCGIDKRRHNSQCRRTTOSYVVALTMDSKKRIGMFRIRIDISCV-TLTIKRR 247

RESULT 3
BDNF_URSML
ID BDNF_URSML STANDARD; PRT; 247 AA.
AC 018753;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS Ursus malayanus (Malayan sun bear) (Helarctos malayanus).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Ursidae; Helarctos.
RN NCBI_TaxID=9634;
[1]
RP SEQUENCE FROM N.A.
RA Lin F.;
RL Submitted (MAY-1997) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC
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CC or send an email to license@isb-sib.ch).

DR EMBL: AF002240; AAB71653.1; -
DR HSSP: P23560; 1B8M.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF. 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF. 1.
DR SMART: SM00140; NGF. 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 128
FT CHAIN 129 247
FT SITE 57 58
FT DISULFID 141 208
FT DISULFID 186 237
FT DISULFID 196 239
FT CARBOHYD 121 121
SQ SEQUENCE 247 AA; 27807 MW; FA1B3DFC4704D883 CRC64;

Query Match 97.3%; Score 622.5; DB 1; Length 247;
Best Local Similarity 99.2%; Pred. No. 1e-58;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCSISEWYTAADKKTAVDMGGTIVLEKVPVSKGOLKQYFETKCNP 61
DB 129 HSDPARGELSVCSISEWYTAADKKTAVDMGGTIVLEKVPVSKGOLKQYFETKCNP 188
DB 191 MGYTKREGCGIDKRRHNSQCRRTTOSYVVALTMDSKKRIGMFRIRIDISCV-TLTIKRR 119
OY 62 MGYTKREGCGIDKRRHNSQCRRTTOSYVVALTMDSKKRIGMFRIRIDISCV-TLTIKRR 119

DB 189 MGYTKREGCGIDKRRHNSQCRRTTOSYVVALTMDSKKRIGMFRIRIDISCV-TLTIKRR 247

RESULT 4
BDNF_MOUSE
ID BDNF_MOUSE STANDARD; PRT; 249 AA.
AC P21237;
DT 01-MAY-1991 (Rel. 18, Created)
DT 01-MAY-1991 (Rel. 18, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
RN NCBI_TaxID=10090;
[1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90316101; PubMed=2369898.
RA Hofer M., Pagliusi S.R., Hohn A., Leibrock J., Barde Y.-A.;
RT "Regional distribution of brain-derived neurotrophic factor mRNA in
RT the adult mouse brain.";
RL EMBO J. 9:2459-2464 (1990).
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC
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CC or send an email to license@isb-sib.ch).

DR EMBL: X55573; CA39159.1; -
DR PIR: S12555; S12555.
DR HSSP: P23560; 1B8M.
DR MGD: MGI:88145; Bdnf.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF. 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF. 1.
DR SMART: SM00140; NGF. 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 130
FT CHAIN 131 249
FT SITE 57 58
FT DISULFID 143 210
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FT DISULFID 198 241
FT CARBOHYD 123 123
SQ SEQUENCE 249 AA; 28123 MW; 90CE1F1BB235C97 CRC64;

Query Match 97.3%; Score 622.5; DB 1; Length 249;
Best Local Similarity 99.2%; Pred. No. 1e-58;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCSISEWYTAADKKTAVDMGGTIVLEKVPVSKGOLKQYFETKCNP 61
DB 131 HSDPARGELSVCSISEWYTAADKKTAVDMGGTIVLEKVPVSKGOLKQYFETKCNP 190
DB 191 MGYTKREGCGIDKRRHNSQCRRTTOSYVVALTMDSKKRIGMFRIRIDISCV-TLTIKRR 249
OY 62 MGYTKREGCGIDKRRHNSQCRRTTOSYVVALTMDSKKRIGMFRIRIDISCV-TLTIKRR 119


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RESULT 5
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ID BDNF_RAT      P23363;
AC 01-NOV-1991 (Rel. 20, Created)
DT 01-NOV-1991 (Rel. 20, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=91365361; PubMed=1889806;
RA Maisongier P.C., le Beau M.M., Espinosa R. III, Ip N.Y.,
RA Belluscio L., de la Monte S.M., Squinto S., Furch M.E.,
RA Yancopoulos G.D.;
RT "Human and rat brain-derived neurotrophic factor and neurotrophin-3:
RT gene structures, distributions, and chromosomal localizations.";
RL Genomics 10:558-568(1991).
RN [2]
RP SEQUENCE FROM N.A.
RA Ohara O.;
RL Submitted (XXX-1992) to the EMBL/GenBank/DBJ databases.
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=92111157; PubMed=1966766;
RA Yancopoulos G.D., Maisongier P.C., Ip N.Y., Aldrich T.H.,
RA Belluscio L., Boulton T.G., Cobb M.H., Squinto S.P., Furch M.E.;
RT "Neurotrophic factors, their receptors, and the signal transduction
RT pathways they activate.";
RL Cold Spring Harb. Symp. Quant. Biol. 55:371-379(1990).
RN [4]
RP SEQUENCE OF 8-249 FROM N.A.
RX MEDLINE=93213504; PubMed=8461137;
RA Timusk T., Palm K., Metsis M., Reintam T., Palme V., Saarma M.,
RA Persson H.;
RT "Multiple promoters direct tissue-specific expression of the rat BDNF
RT gene.";
RL Neuron 10:475-489(1993).
RN [5]
RP SEQUENCE OF 187-229 FROM N.A.
RX STRAIN-Sprague-Dawley; TISSUE=Liver;
RX MEDLINE=91222573; PubMed=2025430;
RA Hallböök F., Ihner C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: M61178; AAA63483.1; -
DR EMBL: M61175; AAA16841.1; -
DR EMBL: X67108; CAA47481.1; -
DR EMBL: D10938; BAA01732.1; -
DR PIR: B40304; B40304.
DR PIR: B60536; B60536.
DR HSSP: P23560; 1B8M.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.

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DR PRINTS: PR00268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 130
FT CHAIN 131 249
FT SITE 57 58
FT DISULFID 143 210
FT DISULFID 188 239
FT DISULFID 198 241
FT CARBOHYD 123 123
SQ SEQUENCE 249 AA; 26109 MW; F9CAAA5DEF9A78B7 CRC64;

Query Match 97.38; Score 622.5; DB 1; Length 249;
Best Local Similarity 99.28; Pred. No. 1e-58; Indels 1; Gaps 1;
Matches 118; Conservative 0; Mismatches 0;

Oy 2 HSDPARRELSVCDISPMWTAADKRTAVDMSGTVLEKVPVSKGLKQFYETKCNP 61
Db 131 HSDPARRELSVCDISPMWTAADKRTAVDMSGTVLEKVPVSKGLKQFYETKCNP 190
Oy 62 MGYTEGCGRIDKRMNSQCRTOGYRALTMDSKKRIGMFRIDTSCV-TLTKRGR 119
Db 191 MGYTEGCGRIDKRMNSQCRTOGYRALTMDSKKRIGMFRIDTSCVTLTKRGR 249

RESULT 6
BDNF_PIG          STANDARD;          PRT;          252 AA.
ID BDNF_PIG      P14082;
AC 01-JAN-1990 (Rel. 13, Created)
DT 01-JAN-1990 (Rel. 13, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suidae; Suidae; Sus.
OX NCBI_TaxID=9823;
RN [1]
RP SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
RX MEDLINE=89384868; PubMed=2779653;
RA Leibrock J., Lottspeich F., Hohn A., Hofer M., Hengeler B.,
RA Mastakowski P., Thoenen H., Barde Y.-A.;
RT "Molecular cloning and expression of brain-derived neurotrophic
RT factor.";
RL Nature 341:149-152(1989).
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: BRAIN AND CENTRAL NERVOUS SYSTEM.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: X16713; CAA34685.1; -
DR PIR: A30361; A30361.
DR HSSP: P23560; 1B8M.
DR InterPro: IPR002072; NGF.
DR Pfam: PR00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.

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DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 133
FT CHAIN 134 252
FT SITE 57 58
FT DISULFID 146 213
FT DISULFID 191 244
FT DISULFID 201 244
FT CARBOHYD 126 126
SQ SEQUENCE 252 AA; 28287 MW; 5DAB45F3BE0B7E CRC64;
Query Match 97.3%; Score 622.5; DB 1; Length 252;
Best Local Similarity 99.2%; Pred. No. 1e-58;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;
OY 2 HSDPARRELSCDSISEMVTAAADKKTAVDMSGGTVTLERVPVSKGOLKQYFETKCNP 61
DB 134 HSDPARRELSCDSISEMVTAAADKKTAVDMSGGTVTLERVPVSKGOLKQYFETKCNP 193
OY 62 MGYTKEGCGIDKRRHNSQCRITQSYVALTMDSKKRIGMFRIRIDTSCV-TLTIKRGR 119
DB 194 MGYTKEGCGIDKRRHNSQCRITQSYVALTMDSKKRIGMFRIRIDTSCVTLTIKGR 252
RESULT 7
BDNF_CAVPO STANDARD: PRT; 255 AA.
AC 070183;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriognathii; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-Hartley white; TISSUE=Liver;
RA Inoue M., Nakayama C., Noguchi H.;
RL Submitted (MAR-1998) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC -----
CC EMBL; AB012097; BAA25176.1; -
DR HSSP; P23560; 1B8M.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF.1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF.1.
DR SMART; SM00140; NGF.1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 136
FT CHAIN 137 255
FT SITE 57 58
FT DISULFID 149 216
POTENTIAL.
BY SIMILARITY.
BRAIN-DERIVED NEUROTROPHIC FACTOR.
CLEAVAGE (BY SIP) (BY SIMILARITY).
BY SIMILARITY.

FT DISULFID 194 245
FT DISULFID 204 247
FT CARBOHYD 129 129
SQ SEQUENCE 255 AA; 28308 MW; BA95BA3EBB8FA04 CRC64;
Query Match 97.1%; Score 621.5; DB 1; Length 255;
Best Local Similarity 98.3%; Pred. No. 1.3e-58;
Matches 117; Conservative 1; Mismatches 0; Indels 1; Gaps 1;
OY 2 HSDPARRELSCDSISEMVTAAADKKTAVDMSGGTVTLERVPVSKGOLKQYFETKCNP 61
DB 137 HSDPARRELSCDSISEMVTAAADKKTAVDMSGGTVTLERVPVSKGOLKQYFETKCNP 196
OY 62 MGYTKEGCGIDKRRHNSQCRITQSYVALTMDSKKRIGMFRIRIDTSCV-TLTIKRGR 119
DB 197 MGYTKEGCGIDKRRHNSQCRITQSYVALTMDSKKRIGMFRIRIDTSCVTLTIKGR 255
RESULT 8
BDNF_FELCA STANDARD: PRT; 247 AA.
AC 097573;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS Felis silvestris catus (Cat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
OX NCBI_TaxID=9685;
RN [1]
RP SEQUENCE FROM N.A.
RA MEDLINE-20211727; PubMed-10745216;
RA Lein E.S., Hohn A., Shatz C.J.;
RT "Dynamic regulation of BDNF and NT-3 expression during visual system
RT development";
RL J. Comp. Neurol. 420:1-18(2000).
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC -----
CC EMBL; AF192537; AAF03423.1; -
DR HSSP; P23560; 1B8M.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF.1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF.1.
DR SMART; SM00140; NGF.1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 128
FT CHAIN 129 247
FT DISULFID 141 208
FT DISULFID 186 237
FT DISULFID 196 239
FT CARBOHYD 121 121
SQ SEQUENCE 247 AA; 27802 MW; 864BA1BD26E0A0F3 CRC64;
Query Match 96.6%; Score 618.5; DB 1; Length 247;
Best Local Similarity 98.3%; Pred. No. 2.7e-58;

	Matches	117:	Conservative	0:	Mismatches	1:	Indels	1:	Gaps	1:
Oy	2	HSDPARGEISVCDSISSEWYTAADKTA	VDMSSGTYVLEKVPVSKOLKQYETK	CNP	61					
Db	129	HSDPARRELSISVCGISSEWYTAADKTA	VDMSSGTYVLEKVPVSKOLKQYETK	CNP	188					
Oy	62	MGYTEGCRGIDKRRHNSOCRTTOSYV	ALTMDSKKRIGMFFIRIDTSCV-TLTIKGR	119						
Db	189	MGYTEGCRGIDKRRHNSOCRTTOSYV	ALTMDSKKRIGMFFIRIDTSCVTLTIKGR	247						
RESULT 9										
	BDNF_URSAR	STANDARD:	PRT:	247 AA.						
ID	BDNF_URSAR	STANDARD:	PRT:	247 AA.						
AC	O18752:									
DT	15-JUL-1998	(Rel. 36, Created)								
Dr	15-JUL-1998	(Rel. 36, Last sequence update)								
Dr	15-JUN-2002	(Rel. 41, Last annotation update)								
DE	Brain-derived neurotrophic factor precursor (BDNF).									
GN	BDNF.									
OS	Ursus arctos (Brown bear) (Grizzly bear).									
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;									
OC	Mammalia; Eutheria; Carnivora; Fissipedia; Ursidae; Ursus.									
OX	NCBI_TaxID=9644;									
RN	[1]									
RP	SEQUENCE FROM N.A.									
RA	Lin F.;									
RL	Submitted (MAY-1997) to the EMBL/GenBank/DBJ databases.									
CC	-1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE									
CC	ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY									
CC	CONNECTED TO IT (BY SIMILARITY).									
CC	-1- SUBCELLULAR LOCATION: Secreted.									
CC	-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.									
CC	-----									
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CC	entities requires a license agreement (See http://www.isb-sib.ch/announce/									
CC	or send an email to license@sib.ch).									
DR	EMBL: AF002239; AAB71652.1; -									
DR	HSSP: P23560; 1B8M.									
DR	InterPro: IPR002072; NGF.									
DR	Pfam: PF00243; NGF; 1.									
DR	PRINTS: PR00268; NGF.									
DR	ProDom: PD002052; NGF; 1.									
DR	SMART: SM00140; NGF; 1.									
DR	PROSITE: PS00248; NGF-1; 1.									
DR	PROSITE: PS00270; NGF-2; 1.									
KW	Growth factor; Signal.									
FT	SIGNAL	1	18	POTENTIAL.						
FT	PROPEP	19	128	BY SIMILARITY.						
FT	CHAIN	129	247	BRAIN-DERIVED NEUROTROPHIC FACTOR.						
FT	SITE	57	58	CLEANAGE (BY SLIP) (BY SIMILARITY).						
FT	DISULFID	141	208	BY SIMILARITY.						
FT	DISULFID	186	237	BY SIMILARITY.						
FT	DISULFID	196	239	BY SIMILARITY.						
FT	CARBOHYD	121	121	N-LINKED (GLCNAC. . .) (POTENTIAL).						
SEQ	SEQUENCE	247 AA:	27837 MW;	EF1B3256F704DB83 CRC64;						
Query Match 96.6%; Score 610.5; DB 1: Length 247;										
Best Local Similarity 98.3%; Pred. No. 2,7e-58;										
Matches 117; Conservative 0; Mismatches 1; Indels 1; Gaps 1										
Oy	2	HSDPARGEISVCDSISSEWYTAADKTA	VDMSSGTYVLEKVPVSKOLKQYETK	CNP	61					
Db	129	HSDPARGEISVCDSISSEWYTAADKTA	VDMSSGTYVLEKVPVSKOLKQYETK	CNP	188					
Oy	62	MGYTEGCRGIDKRRHNSOCRTTOSYV								

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RESULT 10
BDNF_BOVIN ID STANDARD; PRT; 248 AA.
AC 095106;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Brin-derived neurotrophic factor precursor (BDNF) (Fragment).
GN BDNF.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; OC Bovidae; Bovinae; Bos.
NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=97186f02; PubMed=9034318;
RA Arab S.F., Krohn K., Lachmund A., Unsicker K., Suter-Crazzolara C.; RT "The gene encoding bovine brain-derived neurotrophic factor (BDNF)."; RL Gene 185:95-98(1997).
CC -1 FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY CONNECTED TO IT (BY SIMILARITY).
CC CC -1 SUBCELLULAR LOCATION: Secreted.
CC CC -1 SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC CC
CC EMBL; X97914; CAAG6488.1;-.-.
CC HSSP; P23560; IBBM.
DR InterPro: IPRO02072; NGF.
DR pfam: PF00243; NGF_1.
DR ProDom: PD002052; NGF_1.
DR SMART; SM00140; NGF_1.
DR PROSITE; PS00248; NGF_1; 1.
DR DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT FT NON_TER 1 .
FT SIGNAL <1 16 POTENTIAL.
FT PROPSP 17 129 BY SIMILARITY.
FT CHAIN 130 248 BRAIN-DERIVED NEUROTROPIC FACTOR.
FT SITE 55 56 CLEANAGE (BY SLIP) (BY SIMILARITY).
FT DISULEFD 142 209 BY SIMILARITY.
FT TSULEFD 187 238 BY SIMILARITY.
FT DSULEFD 197 240 BY SIMILARITY.
SQ SEQUENCE 248 AA; 28012 MW; 27EB97E233FF77C7 CRC64;

Query Match 95.%; Score 613.5; DB 1; Length 248; Best Local Similarity 97.5%; Pred.No.9..1e-58; Matches 116; Conservative 1; Mismatches 1; Indels 1 Gaps 1

QY 2 HSPPARGELSYCDSDISEWVTADKKTAVMSGTYLVLEKYVPVSQGOLKOYEETRCNP 61
DB 130 HSPPARGELSVCDSSEWTATDKRLAIVMSGGTVLEVKEYPVSVSGQLKOYTEECNP 189
OY 62 MGATKECCRGIDKRHHNSQCRTQSYYRALTMTSKRRIGRFTRIDPSCV-TLLIKGR 119
Db 190 MGATKECCRGIIDKRHNHSQCRTQSYYRALTMDSKRKIRGFRIIDPSVCYTLLIKGR 248

RESULT 11
BDNF_MACMU ID BDNE_MAMCU STANDARD; PRT; 114 AA.
AC Q06Z25;
DT 01-FEB-1995 (Rel. 31, Created)
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DT 01-FEB-1995 (Rel. 31, last sequence update)
DT 15-JUL-1998 (Rel. 36, last annotation update)
DE Brain-derived neurotrophic factor (BDNF) (Fragment).
GN BDNF.
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi:
OC Mammalia: Eutheria: Primates: Catarrhini: Cercopithecoidea:
OC Cercopithecoidea: Macaca.
OX NCBI_Taxid=9544;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE-91309745; PubMed-1906813;
RA Jackson P.J., Townner M.D., Huntsman M.M.:
RT "Comparison of mammalian, chicken and Xenopus brain-derived
RT neurotrophic factor coding sequences.";
RL FEBS Lett. 285:260-264(1991).
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC -----
DR EMBL: X61475; CAA43703.1; -.
DR HSSP: P23560; 188M.
DR InterPro: IPR002072; NCF.
DR Pfam: PF00243; NCF; 1.
DR PRODOM: PD002052; NCF; 1.
DR SMART: SM00140; NCF; 1.
DR PROSITE: PS00248; NCF_1; 1.
DR PROSITE: PS50270; NCF_2; 1.
KW Growth factor.
FT NON_TER 1
FT DISULFID 14 BY SIMILARITY.
FT DISULFID 59 110 BY SIMILARITY.
FT DISULFID 69 112 BY SIMILARITY.
FT NON_TER 114 114
SQ SEQUENCE 114 AA; 12956 MW; D5F1BEDD8F4B925 CRC64;
Query Match 92.8%; Score 594; DB 1; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.5e-56;
Matches 110; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 2 HSDPARRELSTVCSISMTVAADKKTAVDMGSGTVTVLEKVPVSKGLKQYFETKCNP 61
DB 2 HSDPARRELSTVCSISMTVAADKKTAVDMGSGTVTVLEKVPVSKGLKQYFETKCNP 61
QY 62 MGYTREGCGIDKRRHMNSCQRTTOSYVALTMDSKKRIGWFRIRIDTSCV 111
DB 62 MGYTREGCGIDKRRHMNSCQRTTOSYVALTMDSKKRIGWFRIRIDTSCV 111
RESULT 12
BDNF_CHICK
ID BDNF_CHICK STANDARD; PRT: 246 AA.
AC P25429;
DT 01-MAY-1992 (Rel. 22, Created)
DT 01-DEC-1992 (Rel. 24, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS Gallus gallus (chicken).
OC Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi:
OC Archosauria: Aves: Neognathae: Galliformes: Phasianidae: Phasianinae:
OC Gallus.
OX NCBI_Taxid=9031;

RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Leghorn; TISSUE=Liver;
RX MEDLINE-93091238; PubMed-1457809;
RA Maisongier P., Belluscio L., Conover J.C., Yancopoulos G.D.;
RT "Gene sequences of chicken BDNF and NT-3.";
RL DNA Seq. 3:49-54(1992).
RN [2]
RP SEQUENCE OF 127-240 FROM N.A.
RX MEDLINE-91309745; PubMed-1906813;
RA Jackson P.J., Townner M.D., Huntsman M.M.:
RT "Comparison of mammalian, chicken and Xenopus brain-derived
RT neurotrophic factor coding sequences.";
RL FEBS Lett. 285:260-264(1991).
RN [3]
RP SEQUENCE OF 184-226 FROM N.A.
RX MEDLINE-9122573; PubMed-2025430;
RA Hallboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a novel
RT member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC -----
DR EMBL: M83377; AAC42220.1; -.
DR EMBL: X61476; CAA43704.1; -.
DR HSSP: P23560; 188M.
DR InterPro: IPR002072; NCF.
DR Pfam: PF00243; NCF; 1.
DR PRINTS: PR00268; NCF.
DR PRODOM: PD002052; NCF; 1.
DR SMART: SM00140; NCF; 1.
DR PROSITE: PS00248; NCF_1; 1.
DR PROSITE: PS50270; NCF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1
FT PROPEP 19 127
FT CHAIN 128 246
FT SITE 57 58 BRAIN-DERIVED NEUROTROPHIC FACTOR.
FT DISULFID 140 207 CLEAVAGE (BY SLP) (BY SIMILARITY).
FT DISULFID 185 236 BY SIMILARITY.
FT DISULFID 195 238 BY SIMILARITY.
FT CARBOHYD 120 120 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 246 AA; 27714 MW; CE1D93E9FDD3BA0 CRC64;
Query Match 92.6%; Score 592.5; DB 1; Length 246;
Best Local Similarity 93.3%; Pred. No. 1.5e-55;
Matches 111; Conservative 3; Mismatches 4; Indels 1; Gaps 1;
QY 2 HSDPARRELSTVCSISMTVAADKKTAVDMGSGTVTVLEKVPVSKGLKQYFETKCNP 61
DB 128 HSDPARRELSTVCSISMTVAADKKTAVDMGSGTVTVLEKVPVSKGLKQYFETKCNP 187
QY 62 MGYTREGCGIDKRRHMNSCQRTTOSYVALTMDSKKRIGWFRIRIDTSCV-TLTIKGR 119
DB 188 MGYTREGCGIDKRRHMNSCQRTTOSYVALTMDSKKRIGWFRIRIDTSCVTLTIKGR 246
RESULT 13
BDNF_CYPCA
ID BDNF_CYPCA STANDARD; PRT: 270 AA.
AC Q90322;

DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS *Cyprinus carpio* (Common carp).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Cyprinus.
OX NCBI_TaxID=7962;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RA Liu T.S., Chang G.D., Huang F.L., Lo T.B.;
RL Submitted (JAN-1994) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: L27171; AAA49204.1; -
DR HSSP: P23560; 1BBM.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF; 1.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW PROPEP 1 18
FT CHAIN 152 270
FT DISULFID 164 231
FT DISULFID 209 260
FT DISULFID 219 262
FT CARBOHYD 144 144
SQ SEQUENCE 270 AA; 29572 MW; 049DE1EC84742EAA CRC64;
Query Match 90.5%; Score 579.5; DB 1; Length 270;
Best Local Similarity 90.8%; Pred. No. 4e-54;
Matches 108; Conservative 7; Mismatches 3; Indels 1; Gaps 1;
OY 2 HSDPARGELSYCDISSEWNTADKKTAVDMGSGTVLEKYPVSKGQKQYFETKCNP 61
DB 152 HSDPARGELSYCDISSEWNTADKKTAVDMGSGTVLEKYPVSKGQKQYFETKCNP 211
OY 62 MGYTKGCGRIDKRMWNSCRRTOQSYVRLTMDSKKRIGWRIRIDTSCV-TLTIRGR 119
DB 212 LGYTKGCGRIDKRMWNSCRRTOQSYVRLTMDSKKRIGWRIRIDTSCVTLTIRGR 270
RESULT 14
BDNF_XIPMA STANDARD: PRT: 269 AA.
AC 002193;
DT 01-JUL-1993 (Rel. 26, Created)
DT 01-JUL-1993 (Rel. 26, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS *Xiphophorus maculatus* (Southern platyfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;

OC Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC Cyprinodontiformes; Poeciliidae; Xiphophorus.
OX NCBI_TaxID=8083;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE=92333301; PubMed=1629719;
RA Best G.R., Raulf F., Scharl M.;
RT "Brain-derived neurotrophic factor is more highly conserved in
RT structure and function than nerve growth factor during vertebrate
RT evolution."
RL J. Neurochem. 59:432-442(1992).
CC -1- FUNCTION: BDNF PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT
CC ARE ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC -----
DR EMBL: X59942; CAA42567.1; -
DR HSSP: P23560; 1BBM.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF; 1.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW PROPEP 1 18
FT CHAIN 151 269
FT DISULFID 163 230
FT DISULFID 208 259
FT DISULFID 261 261
FT CARBOHYD 143 143
SQ SEQUENCE 269 AA; 29709 MW; DA6774B79F2E5E52 CRC64;
Query Match 89.1%; Score 570.5; DB 1; Length 269;
Best Local Similarity 89.1%; Pred. No. 3.5e-53;
Matches 106; Conservative 7; Mismatches 5; Indels 1; Gaps 1;
OY 2 HSDPARGELSYCDISSEWNTADKKTAVDMGSGTVLEKYPVSKGQKQYFETKCNP 61
DB 151 HSDPARGELSYCDISSEWNTADKKTAVDMGSGTVLEKYPVSKGQKQYFETKCNP 210
OY 62 MGYTKGCGRIDKRMWNSCRRTOQSYVRLTMDSKKRIGWRIRIDTSCV-TLTIRGR 119
DB 211 MGYTKGCGRIDKRMWNSCRRTOQSYVRLTMDSKKRIGWRIRIDTSCVTLTIRGR 269
RESULT 15
BDNF_XENLA STANDARD: PRT: 114 AA.
AC P25432;
DT 01-MAY-1992 (Rel. 22, Created)
DT 01-JUN-1994 (Rel. 29, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update)
DE Brain-derived neurotrophic factor (BDNF) (Fragment).
OS *Xenopus laevis* (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;
OC Xenopodidae; Xenopus.
OX NCBI_TaxID=6335;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=91309745; PubMed=1906813;
RA Isackson P.J., Townner M.D., Huntsman M.M.;

RT "Comparison of mammalian, chicken and Xenopus brain-derived
RT neurotrophic factor coding sequences.",
RL FRBS Lett. 285:260-264(1991).
RN [2]
RP SEQUENCE OF 58-100 FROM N.A.
RC TISSUE-Liver;
RX MEDLINE-91222573; PubMed-2025430;
RA Hallboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RL novel member abundantly expressed in Xenopus ovary."
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: X61477; CAA43705.1; -.
DR HSSP: P23560; 1BND.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KM Growth factor.
FT NON_TER 1 1
FT DISULFID 14 81 BY SIMILARITY.
FT DISULFID 59 110 BY SIMILARITY.
FT DISULFID 69 112 BY SIMILARITY.
FT CONFLICT 73 73 E -> D (IN REF. 2).
FT CONFLICT 96 96 K -> R (IN REF. 2).
FT NON_TER 114 114
SQ SEQUENCE 114 AA; 13031 MW; 409A0CFB5E8EA887 CRC64;

Query Match 87.3%; Score 559; DB 1; Length 114;
Best Local Similarity 92.7%; Pred. No. 2.3e-52;
Matches 102; Conservative 5; Mismatches 3; Indels 0; Gaps 0;

QY 2 HSDPARRGELSVCDISEMTATADKTAVDMSGGTVVLEKVPVSKGLKQYFETKCNP 61
Db |||||
Db 2 HSDPARRGELSVCDISEMTATADKTAVDMSGGTVVLEKVPVSKGLKQYFETKCNP 61
QY 62 MGYTKEGCGRIDKRRHMSQCRTOSSYVALTMDSKKRIGRIFRIDTSCV 111
Db |||||
Db 62 MGYTKEGCGRIEKRYWNSQCRTOSSYVALTMDSKKKYGMRFIRIDTSCV 111

Search completed: December 2, 2002, 15:12:43
Job time : 4.88277 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 ; Search time 18.415 Seconds
(without alignments)
1331.501 Million cell updates/sec

Title: US-10-072-681-4
Perfect score: 640
Sequence: 1 PHSDPARCGLSVCDISEW.....GMRFRIDTSCVLTIRGR 119

Scoring table: BIOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 671580 seqs, 206047115 residues
Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

1: SPREMBL_21:*
2: sp_archaea:*
3: sp_bacteria:*
4: sp_fungi:*
5: sp_human:*
6: sp_invertebrate:*
7: sp_mammal:*
8: sp_mhc:*
9: sp_organelle:*
10: sp_phage:*
11: sp_plant:*
12: sp_rodent:*
13: sp_virus:*
14: sp_vertebrate:*
15: sp_unclassified:*
16: sp_rvltus:*
17: sp_bacteriap:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query	Length	DB	ID	Description
1	622.5	97.3	153	11	09CYL3	09CYL3 mus musculus
2	622.5	97.3	247	6	097759	097759 allurus ful
3	622.5	97.3	249	11	08VH4	08VH4 mus musculus
4	592.5	92.6	177	13	091BL2	091BL2 poephila qu
5	578.5	90.4	246	13	080G75	080G75 phrynoceph
6	574.5	89.8	246	13	080G75	080G75 phrynoceph
7	572.5	89.5	270	13	091H42	091H42 japalura sp
8	562.5	87.9	246	13	080G74	080G74 cyclophiops
9	552.5	86.3	247	13	080G77	080G77 tylosotrit
10	544	85.0	101	6	09TR22	09TR22 macaca fusc
11	544	85.0	101	6	09TR22	09TR22 macaca fusc
12	445	69.5	85	6	013114	013114 notoryctes
13	445	69.5	85	6	013114	013114 isodon mac
14	445	69.5	85	6	013122	013122 tarsipes ro
15	445	69.5	85	6	002795	002795 ornithorhyn
16	445	69.5	85	6	002798	002798 petaurus br
						013104 cercartetus

17	445	69.5	85	6	013105	013105 dasyruroides
18	445	69.5	85	6	002801	002801 tachyglossu
19	444	69.4	85	6	002803	002803 trichosurus
20	437	68.3	85	6	002790	002790 macropus fu
21	369	57.7	184	6	09BF05	09BF05 tupia mino
22	369	57.7	185	6	09BF06	09BF06 talpa alta
23	369	57.7	185	6	09BF05	09BF05 condylura c
24	369	57.7	185	6	09BF03	09BF03 choleopus h
25	369	57.7	186	6	09BF02	09BF02 choleopus d
26	369	57.7	186	6	09BF09	09BF09 tamandua te
27	369	57.7	186	6	09BF08	09BF08 myrmecophag
28	369	57.7	186	6	09BF04	09BF04 sorex arane
29	369	57.7	186	6	09BF02	09BF02 loxodonta a
30	369	57.7	186	6	09BF01	09BF01 macaca mula
31	369	57.7	186	6	09BF09	09BF09 hylobates c
32	369	57.7	186	6	09BF08	09BF08 orycteropus
33	369	57.7	186	6	09BF07	09BF07 sylviagus
34	369	57.7	186	6	09BF04	09BF04 lemura catla
35	369	57.7	186	6	09BF02	09BF02 lemura catla
36	369	57.7	186	6	09BF01	09BF01 hylobates c
37	369	57.7	186	6	09BF09	09BF09 atildeus ja
38	369	57.7	186	6	09BF08	09BF08 peropus gi
39	369	57.7	186	6	09BF07	09BF07 roussetus i
40	369	57.7	186	6	09BF06	09BF06 nycterus th
41	369	57.7	186	6	09BF02	09BF02 lama glama
42	369	57.7	186	6	09BF08	09BF08 equus caball
43	369	57.7	186	6	09BF07	09BF07 ceratotheri
44	369	57.7	186	6	09BF06	09BF06 tapirus ind
45	369	57.7	186	6	09BF05	09BF05 felis silve

ALIGNMENTS

RESULT 1

ID	09CYL3	PRELIMINARY;	PRT;	153 AA.
AC	09CYL3:			
DT	01-JUN-2001 (TREMBLrel. 17, Created)			
DT	01-JUN-2001 (TREMBLrel. 17, Last sequence update)			
DT	01-DEC-2001 (TREMBLrel. 19, Last annotation update)			
DE	Brain derived neurotrophic factor.			
GN	BDNF.			
OS	Mus musculus (Mouse).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.			
OX	NCBI_Taxid=10090;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	SPRAIN-C57BL/6J; TISSUE-EMBRYO;			
RA	MEDLINE-21085660; Pubmed-11217851;			
RA	Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,			
RA	Atakawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,			
RA	Atakawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamada I.,			
RA	Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,			
RA	Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,			
RA	Fleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,			
RA	Kuehl P., Lewis S., Matsuo Y., Nikaide I., Pesole G., Quackenbush J.,			
RA	Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,			
RA	Sakai K., Offido T., Furuno M., Bono H., Baldarelli R., Barsh G.,			
RA	Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldi M.F.,			
RA	Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,			
RA	Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,			
RA	Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,			
RA	Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,			
RA	Saeki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,			
RA	Suzuki H., Toyooka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,			
RA	Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawai H., Kotsuki S.,			
RA	Hayashizaki Y.,			
RT	*Functional annotation of a full-length mouse cDNA collection.*;			
RL	Nature 409:685-690(2001).			
DR	EMBL: AK017559; BAB30805.1; -.			
	HSP; P23560; 1B8M.			

DR MGD; MGI:88145; Bdnf.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
SO SEQUENCE 153 AA; 17519 MW; CA8EB944CEE5B37 CRC64;

Query Match 97.3%; Score 622.5; DB 11; Length 153;
Best Local Similarity 99.2%; Pred. No. 1.4e-62;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARGELSVCDISSEWTAADKKTAVDMGSGTVLEKVPVSKGOLKQYFETKCNP 61
DB 35 HSDPARGELSVCDISSEWTAADKKTAVDMGSGTVLEKVPVSKGOLKQYFETKCNP 94
QY 62 MGYTEGCGRGIDKRHMNSQCRFTQSYVRALTMDSKKRIGRFRIRIDTSCV-TLTIKRR 119
DB 95 MGYTEGCGRGIDKRHMNSQCRFTQSYVRALTMDSKKRIGRFRIRIDTSCVTLTIKRR 153

RESULT 2
O97759 PRELIMINARY; PRT; 247 AA.
ID O97759;
AC O97759;
DT 01-MAY-1999 (TREMBLrel. 10, Created)
DT 01-MAY-1999 (TREMBLrel. 10, Last sequence update)
DT 01-JUN-2001 (TREMBLrel. 17, Last annotation update)
DE Brain derived neurotrophic factor.
GN BDNF.
OS Allurus fulgens (Lesser panda).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Procyonidae; Allurus.
OC NCBI_Taxid=9649;
RN NCBI_Taxid=9649;
RP SEQUENCE FROM N.A.
RA Feng L.;
RT "Giant Panda (GP) and Lesser Panda (LP) BDNF gene sequences and their deduced amino acid sequences."
RL Submitted (APR-1996) to the EMBL/GenBank/DBJ databases.
DR EMBL; U56659; A010843.1; -
DR HSSP; P23560; 1B8M.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
SO SEQUENCE 247 AA; 27870 MW; FE8C62CFLA6C03EE CRC64;

Query Match 97.3%; Score 622.5; DB 6; Length 247;
Best Local Similarity 99.2%; Pred. No. 2.4e-62;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARGELSVCDISSEWTAADKKTAVDMGSGTVLEKVPVSKGOLKQYFETKCNP 61
DB 129 HSDPARGELSVCDISSEWTAADKKTAVDMGSGTVLEKVPVSKGOLKQYFETKCNP 188
QY 62 MGYTEGCGRGIDKRHMNSQCRFTQSYVRALTMDSKKRIGRFRIRIDTSCV-TLTIKRR 119
DB 189 MGYTEGCGRGIDKRHMNSQCRFTQSYVRALTMDSKKRIGRFRIRIDTSCVTLTIKRR 247

RESULT 3
O8VHH4 PRELIMINARY; PRT; 249 AA.
ID O8VHH4;
AC O8VHH4;
DT 01-MAR-2002 (TREMBLrel. 20, Created)
DT 01-MAR-2002 (TREMBLrel. 20, Last sequence update)
DT 01-JUN-2002 (TREMBLrel. 21, Last annotation update)

DE Anorexia BDNF.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OC NCBI_Taxid=10090;
RN NCBI_Taxid=10090;
RP SEQUENCE FROM N.A.
RC SRRAIN-B6C3FE-A/A-ANXA/+A.
RA Kim S.J., Kim C.S., Cha Y.J., Song K.Y., Yeo M.G.;
RT "Anorexia mouse ORF BDNF."
RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF459642; AAL58475.1; -
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; UNKNOWN_1.
DR PROSITE; PS50270; NGF_2; 1.
SO SEQUENCE 249 AA; 28109 MW; 21CEA6A60A235D97 CRC64;

Query Match 97.3%; Score 622.5; DB 11; Length 249;
Best Local Similarity 99.2%; Pred. No. 2.5e-62;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARGELSVCDISSEWTAADKKTAVDMGSGTVLEKVPVSKGOLKQYFETKCNP 61
DB 131 HSDPARGELSVCDISSEWTAADKKTAVDMGSGTVLEKVPVSKGOLKQYFETKCNP 190
QY 62 MGYTEGCGRGIDKRHMNSQCRFTQSYVRALTMDSKKRIGRFRIRIDTSCV-TLTIKRR 119
DB 191 MGYTEGCGRGIDKRHMNSQCRFTQSYVRALTMDSKKRIGRFRIRIDTSCVTLTIKRR 249

RESULT 4
O918L2 PRELIMINARY; PRT; 177 AA.
ID O918L2;
AC O918L2;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-MAR-2001 (TREMBLrel. 16, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE BDNF (Fragment).
OS Poephila guttata (zebra finch) (Taeniopygia guttata).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Passeriformes; Estrildidae.
OC Estrildidae; Taeniopygia.
OC NCBI_Taxid=59729;
RN NCBI_Taxid=59729;
RP SEQUENCE FROM N.A.
RX MEDLINE-20193595; PubMed-10727739;
RA Johnson F., Norstrom E., Soderstrom K.;
RT "Increased expression of endogenous biotin, but not BDNF, in telencephalic song regions during zebra finch vocal learning."
RL Brain Res. Dev. Brain Res. 120:113-123 (2000).
DR EMBL; AF253589; AAF78050.2; -
DR HSSP; P23560; 1B8M.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
FT NON_TER 1
SO SEQUENCE 177 AA; 20273 MW; BDB9031515BD369D CRC64;

Query Match 92.6%; Score 592.5; DB 13; Length 177;
Best Local Similarity 93.3%; Pred. No. 4.1e-59;
Matches 111; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 2 HSDPARGELSVCDISSEWTAADKKTAVDMGSGTVLEKVPVSKGOLKQYFETKCNP 61
DB 59 HSDPARGELSVCDISSEWTAADKKTAVDMGSGTVLEKVPVSKGOLKQYFETKCNP 118


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RT phylogeny and taxonomy.";
RL Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.
FT CHAIN 128 246 BRAIN DERIVED NEUROTROPHIC FACTOR
SQ SEQUENCE 246 AA; 27773 MW; BA01780349F37856 CRC64;

Query Match 87.9%; Score 562.5; DB 13; Length 246;
Best Local Similarity 89.1%; Pred. No. 1.5e-55;
Matches 106; Conservative 5; Mismatches 7; Indels 1; Gaps 1;

OY 2 HSDPARRELSCVCSISMTVAADKKTAVDMSCGTVYLEKVPVSKGOLKQYFETKCNP 61
DQ 128 HSDPARRELSCVCSISMTVAADKKTAVDMSCGTVYLEKVPVSKGOLKQYFETKCNP 187
DB 188 KGYAKGCGIDKRYMNSQCRRTQSYVALTMDSKKRIGRFRIRIDTSCV-TLTIKGR 246

RESULT 9
OY 080G77 PRELIMINARY: PRT: 247 AA.
AC 080G77;
DT 01-JUN-2002 (TREMBlrel. 21, Created)
DT 01-JUN-2002 (TREMBlrel. 21, Last sequence update)
DE Brain derived neurotrophic factor.
OS Tylosocriton talangensis.
OC Amphibia; Batrachia; Caudata; Salamandroidae; Salamandridae;
OC Tylosocriton.
OX NCBI_TaxID=129885;
RN [1]
RP SEQUENCE FROM N.A.
RA Cao M., Yang Y.H., Zhang Y.Z.;
RT "Cloning and sequence analysis of brain derived neurotrophic factor
RL ying yung yu Huan Ching Sheng Wu Hsueh Pao 8:0-0(2002).
DR EMBL: AF497712; AAM18078.1; -.
SQ SEQUENCE 247 AA; 27841 MW; FFCB5F28A7620DE0 CRC64;

Query Match 86.3%; Score 552.5; DB 13; Length 247;
Best Local Similarity 88.2%; Pred. No. 2.1e-54;
Matches 105; Conservative 7; Mismatches 6; Indels 1; Gaps 1;

OY 2 HSDPARRELSCVCSISMTVAADKKTAVDMSCGTVYLEKVPVSKGOLKQYFETKCNP 61
DQ 129 HSDPARRELSCVCSISMTVAADKKTAVDMSCGTVYLEKVPVSKGOLKQYFETKCNP 188
DB 189 MGYAKGCGIDKRYMNSQCRRTQSYVALTMDSKKRIGRFRIRIDTSCV-TLTIKGR 247

RESULT 10
OY 09TT22 PRELIMINARY: PRT: 101 AA.
AC 09TT22;
DT 01-MAY-2000 (TREMBlrel. 13, Created)
DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
DE Brain-derived neurotrophic factor (Fragment).
OS Macaca fuscata (Japanese macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecoidea; Macaca.
OX NCBI_TaxID=9542;
RN [1]
RP SEQUENCE FROM N.A.
RA Hashimoto T., Okuno H., Tokuyama W., Li Y.-X., Miyashita Y.;
```

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RT "Expression of brain-derived neurotrophic factor, neurotrophin-3 and
RL their receptor messenger RNAs in monkey rhinal cortex.";
FT CHAIN 101 101
SQ SEQUENCE FROM N.A.
RC TISSUE-BLOOD;
RX MEDLINE-99270338; PubMed-10340513;
RA Okuno H., Tokuyama W., Li Y.-X., Hashimoto T., Miyashita Y.;
RT "Quantitative evaluation of neurotrophin and trk mRNA expression in
RT visual and limbic areas along the occipito-temporo-hippocampal pathway
RT in adult macaque monkeys.";
DR EMBL: AF208982; AAF24762.1; -.
DR HSP: P23560.1BND.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF.1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF.1.
DR SMART: SM00140; NGF.1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
FT NON_TER 1
FT NON_TER 101
SQ SEQUENCE 101 AA; 11476 MW; D6A568D497961740 CRC64;

Query Match 85.0%; Score 544; DB 6; Length 101;
Best Local Similarity 100.0%; Pred. No. 6.4e-54;
Matches 101; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 11 LSCVDSISEWYIADKKTAVDMSCGTVYLEKVPVSKGOLKQYFETKCNPMGYTKECR 70
DQ 1 LSCVDSISEWYIADKKTAVDMSCGTVYLEKVPVSKGOLKQYFETKCNPMGYTKECR 60
DB 61 GIDKRRMNSQCRRTQSYVALTMDSKKRIGRFRIRIDTSCV 101

OY 71 GIDKRRMNSQCRRTQSYVALTMDSKKRIGRFRIRIDTSCV 111
DQ 61 GIDKRRMNSQCRRTQSYVALTMDSKKRIGRFRIRIDTSCV 101

RESULT 11
OY 002792 PRELIMINARY: PRT: 85 AA.
AC 002792;
DT 01-JUL-1997 (TREMBlrel. 04, Created)
DT 01-JUL-1997 (TREMBlrel. 04, Last sequence update)
DE Brain-derived neurotrophic factor (Fragment).
OS Notoryctes typhlops (Marsupial mole).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Notoryctemorphia; Notoryctidae; Notoryctes.
OX NCBI_TaxID=37699;
RN [1]
RP SEQUENCE FROM N.A.
RA Kullander K., Carlson B., Hallbook F.;
RT "Molecular phylogeny and evolution of the neurotrophins from
RT monotremes and marsupials.";
RL Submitted (MAR-1997) to the EMBL/GenBank/DBJ databases.
DR EMBL: U93380; AAB58685.1; -.
DR HSP: P23560.1BND.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF.1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF.1.
DR SMART: SM00140; NGF.1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
FT NON_TER 1
FT NON_TER 85
SQ SEQUENCE 85 AA; 9577 MW; 33754EA015314661 CRC64;

Query Match 70.0%; Score 448; DB 6; Length 85;
Best Local Similarity 97.6%; Pred. No. 3.9e-43;
Matches 83; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
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QY 16 SISEWYTAADKKTAVDMSGGTIVLEKVPVSKGOLKQFYETKCNPMGYTKEGCGIDKR 75
    |||||||
DB 1 SISEWYTAADKKTAVDMSGGTIVLEKVPVPGKOLKQFYETKCNPMGYTKEGCGIDKR 60
    |||||||

QY 76 HMSNOCRTTOSYVRALTMDSKKRIG 100
    |||||||
DB 61 HMSNOCRTTOSYVRALTMDSKKRIG 85
    |||||||

RESULT 12
O13114 PRELIMINARY; PRT; 85 AA.
AC O13114;
DT 01-JUL-1997 (TReMBLrel. 04, Created)
DT 01-JUL-1997 (TReMBLrel. 04, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE Brain-derived neurotrophic factor (Fragment).
GN BDNF.
OS Isodon macrourus (Short-nosed bandicoot).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Peramellemorphia; Peramelidae; Isodon.
OX NCBI_TaxID=37698;
RN [1]
RP SEQUENCE FROM N.A.
RA Kullander K., Carlson B., Hallbook F.;
RT "Molecular phylogeny and evolution of the neurotrophins from
RT Monotremes and Marsupials.";
RL Submitted (MAR-1997) to the EMBL/GenBank/DBJ databases.
DR EMBL; U93376; AAB58679.1; -.
DR HSSP; P23560; 1BND.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
DR NON_TER 1
FT NON_TER 85
SQ SEQUENCE 85 AA; 9604 MW; 33754EA01520B661 CRC64;

Query Match 69.5%; Score 445; DB 6; Length 85;
Best Local Similarity 96.5%; Pred. No. 8.4e-43;
Matches 82; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 16 SISEWYTAADKKTAVDMSGGTIVLEKVPVSKGOLKQFYETKCNPMGYTKEGCGIDKR 75
    |||||||
DB 1 SISEWYTAADKKTAVDMSGGTIVLEKVPVPGKOLKQFYETKCNPMGYTKEGCGIDKR 60
    |||||||

QY 76 HMSNOCRTTOSYVRALTMDSKKRIG 100
    |||||||
DB 61 HMSNOCRTTOSYVRALTMDSKKRIG 85
    |||||||

RESULT 13
O13122 PRELIMINARY; PRT; 85 AA.
AC O13122;
DT 01-JUL-1997 (TReMBLrel. 04, Created)
DT 01-JUL-1997 (TReMBLrel. 04, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE Brain-derived neurotrophic factor (Fragment).
GN BDNF.
OS Tarsipes rostratus (honey possum).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Diprotodontia; Tarsipedidae; Tarsipes.
OX NCBI_TaxID=38632;
RN [1]
RP SEQUENCE FROM N.A.
RA Kullander K., Carlson B., Hallbook F.;
RT "Molecular phylogeny and evolution of the neurotrophins from
RT Monotremes and Marsupials.";

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RL Submitted (MAR-1997) to the EMBL/GenBank/DBJ databases.
DR EMBL; U93375; AAB58680.1; -.
DR HSSP; P23560; 1BND.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
DR NON_TER 1
FT NON_TER 85
SQ SEQUENCE 85 AA; 9604 MW; 33754EA01520B661 CRC64;

Query Match 69.5%; Score 445; DB 6; Length 85;
Best Local Similarity 96.5%; Pred. No. 8.4e-43;
Matches 82; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 16 SISEWYTAADKKTAVDMSGGTIVLEKVPVSKGOLKQFYETKCNPMGYTKEGCGIDKR 75
    |||||||
DB 1 SISEWYTAADKKTAVDMSGGTIVLEKVPVPGKOLKQFYETKCNPMGYTKEGCGIDKR 60
    |||||||

QY 76 HMSNOCRTTOSYVRALTMDSKKRIG 100
    |||||||
DB 61 HMSNOCRTTOSYVRALTMDSKKRIG 85
    |||||||

RESULT 14
O02795 PRELIMINARY; PRT; 85 AA.
AC O02795;
DT 01-JUL-1997 (TReMBLrel. 04, Created)
DT 01-JUL-1997 (TReMBLrel. 04, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE Brain-derived neurotrophic factor (Fragment).
GN BDNF.
OS Ornithorhynchus anatinus (Duckbill platypus).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Monotremata; Ornithorhynchidae; Ornithorhynchus.
OX NCBI_TaxID=9258;
RN [1]
RP SEQUENCE FROM N.A.
RA Kullander K., Carlson B., Hallbook F.;
RT "Molecular phylogeny and evolution of the neurotrophins from
RT Monotremes and Marsupials.";
RL Submitted (MAR-1997) to the EMBL/GenBank/DBJ databases.
DR EMBL; U93376; AAB58681.1; -.
DR HSSP; P23560; 1BND.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
DR NON_TER 1
FT NON_TER 85
SQ SEQUENCE 85 AA; 9604 MW; 33754EA01520B661 CRC64;

Query Match 69.5%; Score 445; DB 6; Length 85;
Best Local Similarity 96.5%; Pred. No. 8.4e-43;
Matches 82; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 16 SISEWYTAADKKTAVDMSGGTIVLEKVPVSKGOLKQFYETKCNPMGYTKEGCGIDKR 75
    |||||||
DB 1 SISEWYTAADKKTAVDMSGGTIVLEKVPVPGKOLKQFYETKCNPMGYTKEGCGIDKR 60
    |||||||

QY 76 HMSNOCRTTOSYVRALTMDSKKRIG 100
    |||||||
DB 61 HMSNOCRTTOSYVRALTMDSKKRIG 85
    |||||||

RESULT 15
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002798
ID 002798 PRELIMINARY; PRT; 85 AA.
AC 002798;
DT 01-JUL-1997 (TREMBLrel. 04, Created)
DT 01-JUL-1997 (TREMBLrel. 04, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE Brain-derived neurotrophic factor (Fragment).
GN BDNF.
OS Petaurus breviceps (Australian sugar glider).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Diprotodontia; Petauridae; Petaurus.
OX NCBI_TaxID=34899;
RN [1]
RP SEQUENCE FROM N.A.
RA Kuilander K., Carlson B., Hallbook F.;
RT "Molecular phylogeny and evolution of the neurotrophins from
Monotremes and Marsupials."
RL Submitted (MAR-1997) to the EMBL/Genbank/DBJ databases.
DR EMBL; U93377; AAB58682.1; -.
DR HSSP; P23560; IBND.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF_1.
DR PRINTS; PR002052; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
FT NON_TER 1 85
FT NON_TER 1 85
SQ SEQUENCE 85 AA; 9604 MW; 33754EA01520B661 CRC64;

Query Match 69.5%; Score 445; DB 6; Length 85;
Best Local Similarity 96.5%; Pred. No. 8.4e-43;
Matches 82; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
QY 16 SISSEWTTADKRTAVDMSCGTVLEKVPVSKGOLKQYFETKCNPMGTYTKEGCGRIDKR 75
DB 1 SISSEWTTADKRTAVDMSCGTVLEKVPVSKGOLKQYFETKCNPMGTYTKEGCGRIDKR 60
QY 76 HNNSOCTTOSTYVRALTMDSKKRIG 100
DB 61 HNNSOCTTOSTYVRALTMDSKKRIG 85

Search completed: December 2, 2002, 15:12:02
Job time : 19.415 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 ; Search time 8.23095 Seconds

(without alignments)
425.386 Million cell updates/sec

Title: US-10-072-681-4

Perfect score: 640
Sequence: 1 PHSDPARRGELSLVCDISEW.....GMRFRIDRISCVTLTKRGR 119Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued_Patents_AA:*

- 1: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
- 2: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
- 3: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
- 4: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
- 5: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
- 6: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	640	100.0	119	4	US-09-675-503-4
2	633	98.9	118	3	US-08-970-865-4
3	633	98.9	118	3	US-08-581-662-3
4	633	98.9	118	4	US-09-363-573-4
5	633	98.9	118	4	US-09-664-295-3
6	622.5	97.3	119	1	US-08-440-049-4
7	622.5	97.3	119	2	US-08-441-513A-4
8	622.5	97.3	119	5	PCT-US95-06918-4
9	622.5	97.3	120	2	US-08-502-348-1
10	622.5	97.3	120	4	US-09-214-214A-8
11	622.5	97.3	247	1	US-08-451-947-3
12	622.5	97.3	247	2	US-08-424-826A-3
13	622.5	97.3	247	2	US-08-595-043A-77
14	622.5	97.3	247	5	US-08-928-594-3
15	622.5	97.3	247	5	PCT-US91-06950-3
16	622.5	97.3	257	4	US-09-636-368-8
17	622.5	97.3	270	4	US-09-636-368-7
18	622.5	97.3	271	4	US-08-636-368-10
19	619.5	96.8	247	5	US-08-266-080B-3
20	619.5	96.8	247	5	PCT-US95-05423-3
21	614.5	96.0	119	1	US-07-979-630-2
22	614.5	96.0	119	1	US-08-340-131-1
23	614.5	96.0	119	5	PCT-US93-11292-2
24	610.5	95.4	120	1	US-08-340-131-2
25	605.5	94.6	274	4	US-09-636-368-9
26	598.5	93.5	120	4	US-09-214-214A-9
27	596.5	93.2	120	4	US-09-214-214A-10

28	346	54.1	120	4	US-09-675-503-5	Sequence 5, Appl1
29	345.5	54.0	119	3	US-08-970-865-5	Sequence 5, Appl1
30	345.5	54.0	119	3	US-08-361-662-2	Sequence 2, Appl1
31	345.5	54.0	119	4	US-09-363-573-5	Sequence 5, Appl1
32	345.5	54.0	119	4	US-09-664-295-2	Sequence 2, Appl1
33	344.5	53.8	119	1	US-07-979-630-3	Sequence 3, Appl1
34	344.5	53.8	119	1	US-08-440-049-2	Sequence 2, Appl1
35	344.5	53.8	119	1	US-08-340-131-3	Sequence 3, Appl1
36	344.5	53.8	119	2	US-08-441-513A-2	Sequence 2, Appl1
37	344.5	53.8	119	3	US-08-910-691-12	Sequence 12, Appl1
38	344.5	53.8	119	4	US-08-845-541B-2	Sequence 2, Appl1
39	344.5	53.8	119	4	US-09-066-065A-2	Sequence 2, Appl1
40	344.5	53.8	119	5	PCT-US93-11292-3	Sequence 3, Appl1
41	344.5	53.8	119	5	PCT-US95-06918-2	Sequence 2, Appl1
42	344.5	53.8	119	5	PCT-US95-06918-5	Sequence 5, Appl1
43	344.5	53.8	120	1	US-08-340-131-4	Sequence 4, Appl1
44	344.5	53.8	120	3	US-08-581-662-32	Sequence 32, Appl1
45	344.5	53.8	120	4	US-09-214-214A-1	Sequence 1, Appl1

ALIGNMENTS

RESULT 1
US-09-675-503-4
Sequence 4, Application US/09675503
Patent No. 6423831
GENERAL INFORMATION:
APPLICANT: Schmeizer, Charles H.
APPLICANT: Beck, Joanne T.
TITLE OF INVENTION: ISOLATION OF NEUROTROPHINS FROM A
MIXTURE CONTAINING OTHER PROTEINS AND NEUROTROPHIN VARIANTS
FILE REFERENCE: GENEPT. 037C2
CURRENT FILING DATE: 1997-05-29
PRIOR FILING DATE: 1996-11-15
PRIOR APPLICATION NUMBER: 60/030838
PRIOR FILING DATE: 1996-11-15
PRIOR APPLICATION NUMBER: 60/047855
PRIOR FILING DATE: 1997-05-29
PRIOR APPLICATION NUMBER: 08/970865
PRIOR FILING DATE: 1997-11-14
PRIOR APPLICATION NUMBER: 09/363573
PRIOR FILING DATE: 1999-07-29
NUMBER OF SEQ ID NOS: 6
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 4
LENGTH: 119
TYPE: PRT
ORGANISM: Homo sapien
US-09-675-503-4
Query Match 100.0%; Score 640; DB 4; Length 119;
Best Local Similarity 100.0%; Pred. No. 8; le-65;
Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 PHSDPARRGELSLVCDISEWYTAADKKTAVDMGCTVLEKVPVSKQLKQRYETKCN 60
DB 1 PHSDPARRGELSLVCDISEWYTAADKKTAVDMGCTVLEKVPVSKQLKQRYETKCN 60
QY 61 PMGYTKESCRIDRHMNSOCTRTQSYVRLATMNSKRIKGRFRIDRISCVTLTKRGR 119
DB 61 PMGYTKESCRIDRHMNSOCTRTQSYVRLATMNSKRIKGRFRIDRISCVTLTKRGR 119
RESULT 2
US-08-970-865-4
Sequence 4, Application US/08970865
Patent No. 6005081
GENERAL INFORMATION:
APPLICANT: Louis E. Burton, Charles H. Schmeizer, Joanne T. Beck
TITLE OF INVENTION: Purification of NGF

NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/970,865
FILING DATE: 14-NO. 6005081-1997
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/030838
FILING DATE: 11/15/1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/047855
FILING DATE: 5/29/1997
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, PhD., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P1063R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 118 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-970-865-4

Query Match 98.9%; Score 633; DB 3; Length 118;
Best Local Similarity 100.0%; Pred. No. 4.9e-64;
Matches 118; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 HSDPARGELSVCDISEWYTAADKKTAVDMGSGTIVLEKVPVSGOLKQYFETKCNP 61
|||||
DB 1 HSDPARGELSVCDISEWYTAADKKTAVDMGSGTIVLEKVPVSGOLKQYFETKCNP 60
OY 62 MGYTEGCGRIDKRHMNSOCTTOSYVRALTMDSKKRIGRFRIDTSCVTLTIKGR 119
|||||
DB 61 MGYTEGCGRIDKRHMNSOCTTOSYVRALTMDSKKRIGRFRIDTSCVTLTIKGR 118

RESULT 3
US-08-581-662-3
Sequence 3, Application US/08581662
Patent No. 6121235
GENERAL INFORMATION:
APPLICANT: Gao, Wei-Qiang
TITLE OF INVENTION: Treatment of Balance Impairments
FILE REFERENCE: P0981
CURRENT APPLICATION NUMBER: US/08/581,662
CURRENT FILING DATE: 1995-12-29
NUMBER OF SEQ ID NOS: 36
SEQ ID NO 3
LENGTH: 118
TYPE: PRT
ORGANISM: Homo sapiens
US-08-581-662-3

Query Match 98.9%; Score 633; DB 3; Length 118;
Best Local Similarity 100.0%; Pred. No. 4.9e-64;
Matches 118; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 2 HSDPARGELSVCDISEWYTAADKKTAVDMGSGTIVLEKVPVSGOLKQYFETKCNP 61
|||||

DB 1 HSDPARGELSVCDISEWYTAADKKTAVDMGSGTIVLEKVPVSGOLKQYFETKCNP 60
OY 62 MGYTEGCGRIDKRHMNSOCTTOSYVRALTMDSKKRIGRFRIDTSCVTLTIKGR 119
|||||
DB 61 MGYTEGCGRIDKRHMNSOCTTOSYVRALTMDSKKRIGRFRIDTSCVTLTIKGR 118

RESULT 4
US-09-363-573-4
Sequence 4, Application US/09363573
Patent No. 6184360
GENERAL INFORMATION:
APPLICANT: Louis E. Burton, Charles H. Schmelzer, Joanne T. Beck
TITLE OF INVENTION: Purification of NGF
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/363,573
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/970,865
FILING DATE: 14-NO. 6184360-1997
APPLICATION NUMBER: 60/030838
FILING DATE: 11/15/1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/047855
FILING DATE: 5/29/1997
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, PhD., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P1063R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 118 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-09-363-573-4

Query Match 98.9%; Score 633; DB 4; Length 118;
Best Local Similarity 100.0%; Pred. No. 4.9e-64;
Matches 118; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 HSDPARGELSVCDISEWYTAADKKTAVDMGSGTIVLEKVPVSGOLKQYFETKCNP 61
|||||
DB 1 HSDPARGELSVCDISEWYTAADKKTAVDMGSGTIVLEKVPVSGOLKQYFETKCNP 60
OY 62 MGYTEGCGRIDKRHMNSOCTTOSYVRALTMDSKKRIGRFRIDTSCVTLTIKGR 119
|||||
DB 61 MGYTEGCGRIDKRHMNSOCTTOSYVRALTMDSKKRIGRFRIDTSCVTLTIKGR 118

RESULT 5
US-09-664-295-3
Sequence 3, Application US/09664295
Patent No. 6429196
GENERAL INFORMATION:
APPLICANT: Gao, Wei-Qiang
TITLE OF INVENTION: Treatment of Balance Impairments

FILE REFERENCE: GENENT.051C1
CURRENT APPLICATION NUMBER: US/09/664,295
CURRENT FILING DATE: 2000-09-18
PRIOR APPLICATION NUMBER: US 08/581,662
PRIOR FILING DATE: 1995-12-29
NUMBER OF SEQ ID NOS: 37
SEQ ID NO 3
LENGTH: 118
TYPE: PRT
ORGANISM: Homo sapiens
US-09-664-295-3

Query Match 98.9%; Score 633; DB 4; Length 118;
Best Local Similarity 100.0%; Pred. No. 4,9e-64;
Matches 118; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 HSDPARRGELSVCDISISEWYTAADKKTAVDMSSGTVTLKVPVSKQLKQYFETKCNP 61
DB 1 HSDPARRGELSVCDISISEWYTAADKKTAVDMSSGTVTLKVPVSKQLKQYFETKCNP 60
OY 62 MGYTKEGCGIDKRRHNSCCTTOSYVRALTMDSKKRIGWFRIRIDTSCVTLTIKRR 119
DB 61 MGYTKEGCGIDKRRHNSCCTTOSYVRALTMDSKKRIGWFRIRIDTSCVTLTIKRR 118

RESULT 6

US-08-440-049-4
Sequence 4, Application US/08440049
Patent No. 5728803
GENERAL INFORMATION:
APPLICANT: Urfier, Roman
APPLICANT: Presta, Leonard G.
APPLICANT: Winslow, John W.
TITLE OF INVENTION: PANTROPIC NEUROTROPHIC FACTORS
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/440,049
FILING DATE: 12-May-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/253937
FILING DATE: 03-JUN-1994
ATTORNEY/AGENT INFORMATION:
NAME: Torchla, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0905C2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-9874
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-440-049-4

Query Match 97.3%; Score 622.5; DB 1; Length 119;
Best Local Similarity 99.2%; Pred. No. 7.6e-63;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARRGELSVCDISISEWYTAADKKTAVDMSSGTVTLKVPVSKQLKQYFETKCNP 61
DB 1 HSDPARRGELSVCDISISEWYTAADKKTAVDMSSGTVTLKVPVSKQLKQYFETKCNP 60
OY 62 MGYTKEGCGIDKRRHNSCCTTOSYVRALTMDSKKRIGWFRIRIDTSCVTLTIKRR 119
DB 61 MGYTKEGCGIDKRRHNSCCTTOSYVRALTMDSKKRIGWFRIRIDTSCVTLTIKRR 119

RESULT 7

US-08-441-513A-4
Sequence 4, Application US/08441513A
Patent No. 5981480
GENERAL INFORMATION:
APPLICANT: Urfier, Roman
APPLICANT: Presta, Leonard G.
APPLICANT: Winslow, John W.
TITLE OF INVENTION: Pantropic Neurotrophic Factors
NUMBER OF SEQUENCES: 20
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/441,513A
FILING DATE: 15-May-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/253937
FILING DATE: 03-JUN-1994
ATTORNEY/AGENT INFORMATION:
NAME: Torchla, PhD., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0905C3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-441-513A-4

Query Match 97.3%; Score 622.5; DB 2; Length 119;
Best Local Similarity 99.2%; Pred. No. 7.6e-63;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARRGELSVCDISISEWYTAADKKTAVDMSSGTVTLKVPVSKQLKQYFETKCNP 61
DB 1 HSDPARRGELSVCDISISEWYTAADKKTAVDMSSGTVTLKVPVSKQLKQYFETKCNP 60
OY 62 MGYTKEGCGIDKRRHNSCCTTOSYVRALTMDSKKRIGWFRIRIDTSCVTLTIKRR 119
DB 61 MGYTKEGCGIDKRRHNSCCTTOSYVRALTMDSKKRIGWFRIRIDTSCVTLTIKRR 119

RESULT 8

PCT-US95-06918-4
Sequence 4, Application PC/TUS9506918
GENERAL INFORMATION:
APPLICANT: Genentech, Inc.
TITLE OF INVENTION: PANTROPIC NEUROTROPHIC FACTORS
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:

```

; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
;
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 KB floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US95/06918
;
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
;
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: 905PCT
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
;
; TELETYPE: 910/371-7168
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 119 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; PCT-US95-06918-4
;
; Query Match
; Best Local Similarity 97.3%; Score 622.5; DB 5; Length 119;
; Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;
;
; QY 2 HSDPARRGELSYCDISISEWYTAADKKTAVDMGSGTVYLEKVPVSKGOLKQYFETKCNP 61
; DB 1 HSDPARRGELSYCDISISEWYTAADKKTAVDMGSGTVYLEKVPVSKGOLKQYFETKCNP 60
;
; QY 62 MGYTEGCGGIDKRRHNSCQRTTOSYVRALTMDSKKRIGMRIRIDTSCV-TLTIKRR 119
; DB 61 MGYTEGCGGIDKRRHNSCQRTTOSYVRALTMDSKKRIGMRIRIDTSCVTLTIKRR 119
;
; RESULT 9
; US-08-502-348-1
; Sequence 1, Application US/08502348
; Patent No. 5830857
; GENERAL INFORMATION:
; APPLICANT: Carnahan, Josette F
; APPLICANT: Depaulis, Antoine
; APPLICANT: Feltz, Paul
; APPLICANT: Larmet, Yves
; APPLICANT: Marescaux, Christian
; APPLICANT: Nawa, Hiroyuki
; TITLE OF INVENTION: METHOD OF TREATING EPILEPSY
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehaviiland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: US
; ZIP: 91320-1789
;
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentln Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/502,348

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; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Mazza, Richard J.
; REFERENCE/DOCKET NUMBER: A-348
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 120 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-502-348-1
;
; Query Match
; Best Local Similarity 97.3%; Score 622.5; DB 2; Length 120;
; Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;
;
; QY 2 HSDPARRGELSYCDISISEWYTAADKKTAVDMGSGTVYLEKVPVSKGOLKQYFETKCNP 61
; DB 2 HSDPARRGELSYCDISISEWYTAADKKTAVDMGSGTVYLEKVPVSKGOLKQYFETKCNP 61
;
; QY 62 MGYTEGCGGIDKRRHNSCQRTTOSYVRALTMDSKKRIGMRIRIDTSCV-TLTIKRR 119
; DB 62 MGYTEGCGGIDKRRHNSCQRTTOSYVRALTMDSKKRIGMRIRIDTSCVTLTIKRR 120
;
; RESULT 10
; US-09-214-214A-8
; Sequence 8, Application US/09214214A
; Patent No. 6211150
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hershenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/214,214A
; CURRENT FILING DATE: 1998-12-23
; PRIOR FILING DATE: 1997-07-17
; PRIOR APPLICATION NUMBER: PCT/US97/12609
; PRIOR FILING DATE: 1997-07-17
; PRIOR APPLICATION NUMBER: US 08/684,353
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO 8
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
; US-09-214-214A-8
;
; Query Match
; Best Local Similarity 97.3%; Score 622.5; DB 4; Length 120;
; Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;
;
; QY 2 HSDPARRGELSYCDISISEWYTAADKKTAVDMGSGTVYLEKVPVSKGOLKQYFETKCNP 61
; DB 2 HSDPARRGELSYCDISISEWYTAADKKTAVDMGSGTVYLEKVPVSKGOLKQYFETKCNP 61
;
; QY 62 MGYTEGCGGIDKRRHNSCQRTTOSYVRALTMDSKKRIGMRIRIDTSCV-TLTIKRR 119
; DB 62 MGYTEGCGGIDKRRHNSCQRTTOSYVRALTMDSKKRIGMRIRIDTSCVTLTIKRR 120
;
; RESULT 11
; US-08-451-947-3
; Sequence 3, Application US/08451947
; Patent No. 5702906
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR

```


NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/451,947
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2CID2
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 247 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-451-947-3

Query Match 97.3%; Score 622.5; DB 1; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-62;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARGELSVCDISEWYTAADKTAVDMSGSTVYLEKVPVSKGOLKOYFETKCNP 61
DB 129 HSDPARGELSVCDISEWYTAADKTAVDMSGSTVYLEKVPVSKGOLKOYFETKCNP 188
QY 62 MGYTKEGCRGIDKRRHMSQCRRTQSYVRALTMDSKKRIGWFRIRIDPSCV-TLTIRKGR 119
DB 189 MGYTKEGCRGIDKRRHMSQCRRTQSYVRALTMDSKKRIGWFRIRIDPSCVTLTIKGR 247

RESULT 12
US-08-424-826A-3
Sequence 3, Application US/08424826A
Patent No. 5830858
GENERAL INFORMATION:
APPLICANT: Rosenthal, Arnon
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 98
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/424,826A
FILING DATE: 19-APR-1995
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/240387
FILING DATE: 10-MAY-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 25-SEP-1990
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Phd., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0666PIC2
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 247 amino acids
TYPE: Amino Acid
TOPOLOGY: linear
US-08-424-826A-3

Query Match 97.3%; Score 622.5; DB 2; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-62;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARGELSVCDISEWYTAADKTAVDMSGSTVYLEKVPVSKGOLKOYFETKCNP 61
DB 129 HSDPARGELSVCDISEWYTAADKTAVDMSGSTVYLEKVPVSKGOLKOYFETKCNP 188
QY 62 MGYTKEGCRGIDKRRHMSQCRRTQSYVRALTMDSKKRIGWFRIRIDPSCV-TLTIRKGR 119
DB 189 MGYTKEGCRGIDKRRHMSQCRRTQSYVRALTMDSKKRIGWFRIRIDPSCVTLTIKGR 247

RESULT 13
US-08-595-043A-77
Sequence 77, Application US/08595043A
Patent No. 5935824
GENERAL INFORMATION:
APPLICANT: SGARLATO, GREGORY D.
TITLE OF INVENTION: PROTEIN EXPRESSION SYSTEM
NUMBER OF SEQUENCES: 90
CORRESPONDENCE ADDRESS:
ADDRESSEE: MEDLEN & CARROLL
STREET: 220 MONTGOMERY STREET, SUITE 2200
CITY: SAN FRANCISCO
STATE: CALIFORNIA
COUNTRY: UNITED STATES OF AMERICA
ZIP: 94104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/595,043A
FILING DATE: 31-JAN-1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CARROLL, PETER G.
REGISTRATION NUMBER: 32,837
REFERENCE/DOCKET NUMBER: SGAR-00371

```
TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 705-8410
; TELEFAX: (415) 397-8338
; INFORMATION FOR SEQ ID NO: 77:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 247 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-595-043a-77

Query Match          97.3%; Score 622.5; DB 2; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-62;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARRELVSVDISSEWTAADKKTAVDMGSGTVTVLEKVPVSKGOLKQYFETKCNP 61
Db 129 HSDPARRELVSVDISSEWTAADKKTAVDMGSGTVTVLEKVPVSKGOLKQYFETKCNP 188

QY 62 MGYTKEGCGIDKRRHNSQCRTTOSYVRLATMDSKKRIGMFRIRIDTSCV-TLTIRGR 119
Db 189 MGYTKEGCGIDKRRHNSQCRTTOSYVRLATMDSKKRIGMFRIRIDTSCVCTLTIRGR 247

RESULT 14
US-08-928-694-3
; Sequence 3, Application US/08928694
; Patent No. 6037320
; GENERAL INFORMATION:
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/928,694
; FILING DATE: 12-Sep-1997
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/451947
; FILING DATE: 26-MAY-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-JAN
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, PhD., Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P0666P2C1D2C1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-8674
; TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 247 amino acids
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```
TYPE: Amino Acid
; TOPOLOGY: Linear
; US-08-928-694-3

Query Match          97.3%; Score 622.5; DB 3; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-62;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HSDPARRELVSVDISSEWTAADKKTAVDMGSGTVTVLEKVPVSKGOLKQYFETKCNP 61
Db 129 HSDPARRELVSVDISSEWTAADKKTAVDMGSGTVTVLEKVPVSKGOLKQYFETKCNP 188

QY 62 MGYTKEGCGIDKRRHNSQCRTTOSYVRLATMDSKKRIGMFRIRIDTSCV-TLTIRGR 119
Db 189 MGYTKEGCGIDKRRHNSQCRTTOSYVRLATMDSKKRIGMFRIRIDTSCVCTLTIRGR 247

RESULT 15
PCT-US91-06950-3
; Sequence 3, Application PC/TUS9106950
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US91/06950
; FILING DATE: 19910924
; CLASSIFICATION: 436
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; ATTORNEY/AGENT INFORMATION:
; NAME: Hensley, Max D.
; REGISTRATION NUMBER: 27,043
; REFERENCE/DOCKET NUMBER: 666P1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/266-1994
; TELEFAX: 415/952-9881
; TELEEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 247 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; PCT-US91-06950-3

Query Match          97.3%; Score 622.5; DB 5; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.9e-62;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

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Db 129 HSDPARRELVSVDISSEWTAADKKTAVDMGSGTVTVLEKVPVSKGOLKQYFETKCNP 188

QY 62 MGYTKEGCGIDKRRHNSQCRTTOSYVRLATMDSKKRIGMFRIRIDTSCV-TLTIRGR 119
Db 189 MGYTKEGCGIDKRRHNSQCRTTOSYVRLATMDSKKRIGMFRIRIDTSCVCTLTIRGR 247
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Mon Dec 2 15:36:38 2002

us-10-072-681-4.ra1

Page 7

Search completed: December 2, 2002, 15:09:43
Job time : 8.23095 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:08:47 : Search time 4.18523 Seconds

(without alignments)
452.778 Million cell updates/sec

Title: US-10-072-681-4

Perfect score: 640

Sequence: 1 PHSDPARRGELSYVSDISSEM.....GWFIRIDRSCVTLTIKRR 119

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 102317 seqs, 15924203 residues

Total number of hits satisfying chosen parameters: 102317

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Maximum Match 0%

Listing first 45 summaries

Database: Published_Applications_AA:*

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14: /cgn2_6/ptodata/1/pubppa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	640	100.0	119	12 US-10-072-681-4	Sequence 4, Appl1
2	622.5	97.3	120	10 US-09-745-032-8	Sequence 8, Appl1
3	622.5	97.3	120	10 US-09-742-600-8	Sequence 8, Appl1
4	622.5	97.3	247	8 US-08-450-842-3	Sequence 3, Appl1
5	598.5	93.5	120	10 US-09-745-032-9	Sequence 9, Appl1
6	598.5	93.5	120	10 US-09-742-600-9	Sequence 9, Appl1
7	596.5	93.2	120	10 US-09-742-600-10	Sequence 10, Appl1
8	596.5	93.2	120	10 US-09-742-600-10	Sequence 10, Appl1
9	589.5	92.1	120	9 US-09-813-398-10	Sequence 10, Appl1
10	385	60.2	72	10 US-09-848-664-22	Sequence 22, Appl1
11	346	54.1	120	12 US-10-072-681-5	Sequence 1, Appl1
12	344.5	53.8	120	10 US-09-745-032-1	Sequence 1, Appl1
13	344.5	53.8	120	10 US-09-742-600-1	Sequence 1, Appl1
14	344.5	53.8	120	10 US-09-872-090-1	Sequence 1, Appl1
15	344.5	53.8	257	8 US-08-450-842-4	Sequence 4, Appl1
16	340.5	53.2	119	10 US-09-745-032-6	Sequence 6, Appl1
17	340.5	53.2	119	10 US-09-742-600-6	Sequence 6, Appl1
18	340.5	53.2	119	10 US-09-872-090-6	Sequence 6, Appl1
19	340.5	53.2	120	10 US-09-745-032-3	Sequence 3, Appl1

20	340.5	53.2	120	10 US-09-742-600-3	Sequence 3, Appl1
21	340.5	53.2	120	10 US-09-872-090-3	Sequence 3, Appl1
22	338.5	52.9	130	8 US-08-450-842-47	Sequence 47, Appl1
23	338.5	52.9	132	8 US-08-450-842-51	Sequence 51, Appl1
24	336	52.5	117	10 US-09-745-032-7	Sequence 7, Appl1
25	336	52.5	117	10 US-09-742-600-7	Sequence 7, Appl1
26	336	52.5	117	10 US-09-872-090-7	Sequence 7, Appl1
27	336	52.5	118	10 US-09-745-032-5	Sequence 5, Appl1
28	336	52.5	118	10 US-09-742-600-5	Sequence 5, Appl1
29	336	52.5	118	10 US-09-872-090-5	Sequence 5, Appl1
30	335.5	52.4	130	8 US-08-450-842-23	Sequence 23, Appl1
31	334	52.2	120	9 US-09-813-398-11	Sequence 11, Appl1
32	332.5	52.0	130	8 US-08-450-842-22	Sequence 22, Appl1
33	332.5	52.0	131	9 US-09-813-398-12	Sequence 12, Appl1
34	332.5	52.0	168	8 US-08-450-842-6	Sequence 6, Appl1
35	332.5	52.0	210	8 US-08-450-842-2	Sequence 2, Appl1
36	330.5	51.6	130	8 US-08-450-842-60	Sequence 60, Appl1
37	329.5	51.5	130	8 US-08-450-842-59	Sequence 59, Appl1
38	329.5	51.5	130	8 US-08-450-842-61	Sequence 61, Appl1
39	328.5	51.3	130	8 US-08-450-842-62	Sequence 62, Appl1
40	328.5	51.3	130	8 US-08-450-842-68	Sequence 68, Appl1
41	327.5	51.2	130	8 US-08-450-842-63	Sequence 63, Appl1
42	327.5	51.2	130	8 US-08-450-842-64	Sequence 64, Appl1
43	327.5	51.2	130	8 US-08-450-842-69	Sequence 69, Appl1
44	326.5	51.0	130	8 US-08-450-842-20	Sequence 20, Appl1
45	326.5	51.0	130	8 US-08-450-842-65	Sequence 65, Appl1

ALIGNMENTS

RESULT 1
US-10-072-681-4
Sequence 4, Application US/10072681
Patent No. US20020137893A1
GENERAL INFORMATION:
APPLICANT: Burton, Louis E.
APPLICANT: Schmelzer, Charles H.
TITLE OF INVENTION: PURIFICATION OF NGF
FILE REFERENCE: GENENT.037C3
CURRENT APPLICATION NUMBER: US/10/072,681
CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: 60/030838
PRIOR FILING DATE: 1996-11-15
PRIOR APPLICATION NUMBER: 60/047855
PRIOR FILING DATE: 1997-05-29
PRIOR APPLICATION NUMBER: 08/970865
PRIOR FILING DATE: 1997-11-14
PRIOR APPLICATION NUMBER: 09/363573
PRIOR FILING DATE: 1999-07-29
PRIOR APPLICATION NUMBER: 09/675,503
PRIOR FILING DATE: 2000-09-29
NUMBER OF SEQ ID NOS: 6
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 4
LENGTH: 119
TYPE: PRT
ORGANISM: Homo sapien
US-10-072-681-4

Query Match 100.0%: Score 640: DB 12: Length 119:
Best Local Similarity 100.0%: Pred. No. 5.7e-65:
Matches 119: Conservative 0: Mismatches 0: Indels 0: Gaps 0:
QY 1 PHSDPARRGELSYVSDISSEWTTADKKTAVDMSCGTVLEKVPVSKGOLKQYEFETKCN 60
DB 1 PHSDPARRGELSYVSDISSEWTTADKKTAVDMSCGTVLEKVPVSKGOLKQYEFETKCN 60
QY 61 PMGTTKGCRCIDKRHNNSOCRTTOSTYVRLTMDSKKRIGRFRIDTSCVTLTIKRR 119
DB 61 PMGTTKGCRCIDKRHNNSOCRTTOSTYVRLTMDSKKRIGRFRIDTSCVTLTIKRR 119

RESULT 2
US-09-745-032-8
; Sequence 8, Application US/09745032
; Patent No. US20010027179A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hershenon, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/745,032
; PRIOR FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 8
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-745-032-8

Query Match 97.3%; Score 622.5; DB 10; Length 120;
Best Local Similarity 99.2%; Pred. No. 5.3e-63;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARGELSYCDISSEWVTADKKTAVDMGSGTIVLEKYPVSGOLKQYFETKCNP 61
DB 2 HSDPARGELSYCDISSEWVTADKKTAVDMGSGTIVLEKYPVSGOLKQYFETKCNP 61
OY 62 MGYTEGCGRIDKRRHNSCRRTOSSYVRALTMDSKKRIGMRFIRIDTSCVTLTIKGR 119
DB 62 MGYTEGCGRIDKRRHNSCRRTOSSYVRALTMDSKKRIGMRFIRIDTSCVTLTIKGR 120

RESULT 3
US-09-742-600-8
; Sequence 8, Application US/09742600
; Patent No. US2002010135A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hershenon, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/742,600
; PRIOR FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 8
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-742-600-8

Query Match 97.3%; Score 622.5; DB 10; Length 120;
Best Local Similarity 99.2%; Pred. No. 5.3e-63;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

OY 2 HSDPARGELSYCDISSEWVTADKKTAVDMGSGTIVLEKYPVSGOLKQYFETKCNP 61
DB 2 HSDPARGELSYCDISSEWVTADKKTAVDMGSGTIVLEKYPVSGOLKQYFETKCNP 61
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DB 62 MGYTEGCGRIDKRRHNSCRRTOSSYVRALTMDSKKRIGMRFIRIDTSCVTLTIKGR 120

RESULT 4
US-08-450-842-3
; Sequence 3, Application US/08450842
; Patent No. US20020045576A1
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/450,842
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-JAN
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 247 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
US-08-450-842-3

Query Match 97.3%; Score 622.5; DB 8; Length 247;
Best Local Similarity 99.2%; Pred. No. 1.3e-62;
Matches 118; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

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RESULT 5
US-09-745-032-9
; Sequence 9, Application US/09745032
; Patent No. US20010027179A1

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; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hersthenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/745,032
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO 9
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-745-032-9

Query Match          93.5%; Score 598.5; DB 10; Length 120;
Best Local Similarity 95.8%; Pred. No. 2.6e-60;
Matches 114; Conservative 0; Mismatches 4; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCDISISEWTAADKTAADVMSGGTIVLEKVPVSKGOLKQYFETKCNP 61
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RESULT 6
US-09-742-600-9
; Sequence 9, Application US/09742600
; Patent No. US20020010135A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hersthenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/742,600
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO 9
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-742-600-9

Query Match          93.5%; Score 598.5; DB 10; Length 120;
Best Local Similarity 95.8%; Pred. No. 2.6e-60;
Matches 114; Conservative 0; Mismatches 4; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCDISISEWTAADKTAADVMSGGTIVLEKVPVSKGOLKQYFETKCNP 61
Db 2 HSDPARGELSVCDISISEWTAADKTAADVMSGGTIVLEKVPVSKGOLKQYFETKCNP 61

OY 62 MGYTDEGCRGIDDRHMSQCRRTTOSYVRALTMDSKRRIGWFRIRIDTSCV-TLTIKRR 119
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RESULT 7
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US-09-745-032-10
; Sequence 10, Application US/09745032
; Patent No. US20010027179A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hersthenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/745,032
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO 10
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-745-032-10

Query Match          93.2%; Score 596.5; DB 10; Length 120;
Best Local Similarity 95.8%; Pred. No. 4.4e-60;
Matches 114; Conservative 0; Mismatches 4; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCDISISEWTAADKTAADVMSGGTIVLEKVPVSKGOLKQYFETKCNP 61
Db 2 HSDPARGELSVCDISISEWTAADKTAADVMSGGTIVLEKVPVSKGOLKQYFETKCNP 61

OY 62 MGYTDEGCRGIDDRHMSQCRRTTOSYVRALTMDSKRRIGWFRIRIDTSCV-TLTIKRR 119
Db 62 MGYTDEGCRGIDDRHMSQCRRTTOSYVRALTMDSAKAIGWFRIRIDTSCVCTLTIKRR 120

RESULT 8
US-09-742-600-10
; Sequence 10, Application US/09742600
; Patent No. US20020010135A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hersthenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/742,600
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO 10
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-742-600-10

Query Match          93.2%; Score 596.5; DB 10; Length 120;
Best Local Similarity 95.8%; Pred. No. 4.4e-60;
Matches 114; Conservative 0; Mismatches 4; Indels 1; Gaps 1;

OY 2 HSDPARGELSVCDISISEWTAADKTAADVMSGGTIVLEKVPVSKGOLKQYFETKCNP 61
Db 2 HSDPARGELSVCDISISEWTAADKTAADVMSGGTIVLEKVPVSKGOLKQYFETKCNP 61

OY 62 MGYTDEGCRGIDDRHMSQCRRTTOSYVRALTMDSKRRIGWFRIRIDTSCV-TLTIKRR 119
Db 62 MGYTDEGCRGIDDRHMSQCRRTTOSYVRALTMDSAKAIGWFRIRIDTSCVCTLTIKRR 120
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RESULT 9
US-09-813-398-10
; Sequence 10, Application US/09813398
; Patent No. US20020169292A1
; GENERAL INFORMATION:
; APPLICANT: Bruce D. Weintraub
; APPLICANT: Mariusz W. Skudlinski
; APPLICANT: University of Maryland
; TITLE OF INVENTION: CYSTEINE KNOT GROWTH FACTOR MUTANTS
; FILE REFERENCE: US09/0331
; CURRENT APPLICATION NUMBER: US/09/813,398
; PRIOR FILING DATE: 2001-03-20
; PRIOR APPLICATION NUMBER: PCT/US99/05908
; PRIOR FILING DATE: 1999-03-19
; PRIOR APPLICATION NUMBER: PCT/US98/19772
; PRIOR FILING DATE: 1998-09-22
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 120
; TYPE: PRT
; ORGANISM: HOMO SAPIEN
US-09-813-398-10

Query Match          92.1%; Score 589.5; DB 9; Length 120;
Best Local Similarity 93.3%; Pred. No. 2.7e-59;
Matches 112; Conservative 1; Mismatches 6; Indels 1; Gaps 1;

QY 1 PHSDPARGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCN 60
DB 1 PHSDPARGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCN 60

QY 61 PGYTKREGCRGIDKRRHNSOCCRTQSYVRALTMDSKKRIGRFRIDTSCV-TLTIKRGR 119
DB 61 PGYTKREGCRGIDKRRHNSOCCRTQSYVRALTMDSKKRIGRFRIDTSCVCIILTIKRR 120

RESULT 10
US-09-848-664-22
; Sequence 22, Application US/09848664
; Patent No. US20020146414A1
; GENERAL INFORMATION:
; APPLICANT: Sakiyama-Elbert, Shelly E.
; APPLICANT: Hubbell, Jeffrey A.
; TITLE OF INVENTION: CONTROLLED RELEASE OF NO. US20020146414A1-Heparin Binding Growth
; FILE REFERENCE: ETH 108
; CURRENT APPLICATION NUMBER: US/09/848,664
; PRIOR FILING DATE: 2001-05-03
; PRIOR APPLICATION NUMBER: 09/298,084
; NUMBER OF SEQ ID NOS: 31
; SOFTWARE: Patentlin Ver. 2.1
; SEQ ID NO 22
; LENGTH: 72
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-848-664-22

Query Match          60.2%; Score 385; DB 10; Length 72;
Best Local Similarity 100.0%; Pred. No. 1.3e-36;
Matches 72; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 HSDPARGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCN 61
DB 1 HSDPARGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCN 60

QY 62 MGYTEKGRGID 73
DB 61 MGYTEKGRGID 72
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RESULT 11
US-10-072-681-5
; Sequence 5, Application US/10072681
; Patent No. US20020137893A1
; GENERAL INFORMATION:
; APPLICANT: Burton, Louis E.
; APPLICANT: Schmelzer, Charles H.
; APPLICANT: Beck, Joanne T.
; TITLE OF INVENTION: PURIFICATION OF NGF
; FILE REFERENCE: GENENT.037C3
; CURRENT APPLICATION NUMBER: US/10/072,681
; PRIOR FILING DATE: 2002-02-08
; PRIOR APPLICATION NUMBER: 60/030838
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: 60/047855
; PRIOR FILING DATE: 1997-05-29
; PRIOR APPLICATION NUMBER: 08/970865
; PRIOR FILING DATE: 1997-11-14
; PRIOR APPLICATION NUMBER: 09/363573
; PRIOR FILING DATE: 1999-07-29
; PRIOR APPLICATION NUMBER: 09/675,503
; PRIOR FILING DATE: 2000-09-29
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 5
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-072-681-5

Query Match          54.1%; Score 346; DB 12; Length 120;
Best Local Similarity 55.4%; Pred. No. 5.6e-32;
Matches 67; Conservative 21; Mismatches 29; Indels 4; Gaps 3;

QY 1 PHSD-PARGELSVCDISSEWTAADKKTAVDMGSGTIVLEKVPVSKGOLKQYFETKCN 59
DB 1 PYAEHKSRRGEXSVCDSESLWT--DKSAIDIRGHQVTLGEIKTGNSPVQYFETKCN 58

QY 60 NPMGYTKREGCRGIDKRRHNSOCCRTQSYVRALTMDSKKRIGRFRIDTSCV-TLTIRG 118
DB 59 KEARPVKNCGRGIDDKHNSOCCRTQSYVRALTMDSKKRIGRFRIDTSCVSLSRKIG 118

QY 119 R 119
DB 119 R 119

RESULT 12
US-09-745-032-1
; Sequence 1, Application US/09745032
; Patent No. US20010027179A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Herhenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revise073100
; CURRENT APPLICATION NUMBER: US/09/745,032
; PRIOR FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patentlin Ver. 2.1
; SEQ ID NO 1
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-745-032-1
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Db : ||| |||| | || | : || : | ||| : : ||||| |
144 SHRGYSVCDSESLWYT--DKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEARPV 201
QY 66 KEGCRGIDKRHMNSOCHRTOSYVRALTMDSKKRIGWRRFIRIDTSCV-TLTIKRGR 119
| ||||| : ||||| : | : ||| : ||||| | : | ||
Db 202 KNGCRGIDDKHMNSOCHTSQTYVRALTSNNKLVGWRMIRIDTSCVICALSRKIGR 256

Search completed: December 2, 2002, 15:14:34
Job time : 4.18523 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:37 ; Search time 23.9156 Seconds

Title: US-10-072-681-5

Sequence: 1 PYAEHKSRRGEYSVCDSESL.....RWIRIDTSCVSAISRKIGRT 120

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

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Minimum DB seq length: 0
Maximum DB seq length: 20000000000
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post-processing: Minimum Match 0%
                  Maximum Match 100%
                  Listing first 45 summaries
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Database :

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23:	/SIDS2/gcgdata/genseq/genseqp-emb1/AA2002.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	646	98.9	119	19	AAW48889	Human neurotrophin
2	646	98.9	119	21	AAB29113	Human neurotrophin-3
3	646	98.9	281	12	AAR11359	Neurotrophin-3, H
4	646	98.9	281	14	AAK37600	Human NT-3, H
5	641	98.2	119	13	AAK29495	Human NT-3, Homo
6	641	98.2	119	15	AAK54086	NT-3, mouse, Mus
7	641	98.2	119	20	AAW81118	Neurotrophin-3, R
8	641	98.2	119	22	AAAG6495	Neurotrophin-3 will
9	641	98.2	119	22	AAK35946	Nerve growth facto
10	641	98.2	120	17	AAW29592	NT-3 amino acid se
						Confugate of neuro

1.1	641	98.2	120	18	AAAI0014	Human neurotrophin-3
1.2	641	98.2	120	21	AAEI0455	Human R-metHuNT pr
1.3	641	98.2	126	22	AAEO0868	Human recombinant
1.4	641	98.2	136	12	AAAI1306	Neure Growth Factor
1.5	641	98.2	246	13	AAAR26273	NGF2/NT-3 in PTB13
1.6	641	98.2	240	14	AAAR3937	Sequence of pro re
1.7	641	98.2	240	15	AAAR6451	Human NGF-2/NT-3 e
1.8	641	98.2	257	12	AAAI40322	Human NGF3. Homo
1.9	641	98.2	257	13	NGF2/NT-3 in PTB13	NGF2/NT-3 in PTB13
2.0	641	98.2	257	14	AAAR3936	Sequence of pro re
2.1	641	98.2	257	16	AAAR5078	Human neurotrophin
2.2	641	98.2	257	20	AAI06594	Neurotrophin-3 (NT
2.3	641	98.2	257	22	AAAB6927	Human NF. Homo sa
2.4	641	98.2	257	23	AAEB20262	Human neurotrophin
2.5	641	98.2	257	23	AAAS0847	Human recombinant
2.6	641	98.2	258	11	AAAR06648	Novel polypeptide
2.7	641	98.2	258	12	AAAI1357	Neurotrophin-3. M
2.8	641	98.2	258	22	AAAB6928	Rat NF. Rattus sp
2.9	641	98.2	258	23	ABBS7323	Mouse ischaemic co
3.0	641	98.2	271	11	AAAR1649	Novel polypeptide
3.1	638	97.7	271	12	AAAR11307	Neure Growth Factor
3.2	634	97.1	136	11	AAAR06650	Novel polypeptide
3.3	637	97.1	257	15	AAAR3067	Human NGF-2/NT-3 e
3.4	634	97.1	281	17	AAAR37801	Rat NT-3. Rattus
3.5	633	96.9	119	19	AAAR0580	Patropic neurotro
3.6	629	96.3	119	19	AAAS2302	Mutant huNT-3 I-11
3.7	629	96.3	119	22	AAEO5871	Human NT-3(1-11)R
3.8	629	96.3	120	19	AAAS2300	Mutant met-huNT-3
3.9	629	96.3	120	22	AAEO5869	Human r-metHuNT-3
4.0	619	94.8	117	19	AAAS2303	Mutant huNT-3 1-11
4.1	619	94.8	117	19	AAEO5870	Human NT-3(1-11)R
4.2	619	94.8	118	22	AAAS2301	Mutant met-huNT-3
4.3	619	94.8	118	22	AAEO5870	Human r-metHuNT-3
4.4	613	93.9	120	21	AAAB2914	N-terminal of neut
4.5	602	92.2	119	21	AAAY92008	Human neurotrophin

ALIGNMENTS

RESULT 1	
AAW48889	
ID	AAW48889 standard; Protein; 119 AA.
AC	
XX	AAW48889;
XX	
DT	12-OCT-1998 (first entry)
XX	
DE	Human neurotrophin-3.
XX	
KW	Neurotrophin-3; Nr-3; human; purification;
KW	hydrophobic interaction chromatography.
XX	
OS	Homo sapiens.
XX	
FH	Location/Qualifiers
FT	Region 57..67
FT	/note="conserved Cys-containing region involved in
FT	Cys knot motif"
FT	Region 108..110
FT	/note="conserved Cys-containing region involved in
FT	Cys knot motif"
XX	
PN	W09821234-A2.
XX	
PD	22-MAY-1998.
XX	
PE	14-NOV-1997; 97MO-US21068.
XX	
PR	29-MAY-1997; 97US-0047855.
PR	15-NOV-1996; 96US-0030838.
XX	
PA	(GETH) GENENTECH INC.

XX Beck JT, Burton LE, Schmelzer CH;
 PI WPI: 1998-322333/28.
 DR
 XX
 XX Isolation of neurotrophin(s) from, e.g. mis-folded or glycosylated
 PT variant(s) - using hydrophobic interaction chromatography,
 PT optionally in combination with high performance cation exchange
 PT chromatography
 XX
 XX Disclosure: Page 37-38; 59pp; English.
 PS
 XX
 XX This polypeptide comprises human neurotrophin-3 (NT-3) mature
 CC polypeptide. Methods are provided for large-scale purification of
 CC neurotrophins, including mature NT-3, suitable for clinical use. A
 CC claimed method comprises: (1) separating the neurotrophin from the
 CC other proteins using a hydrophobic interaction chromatography resin
 CC (HICR); and optionally (2) separating the neurotrophin from a
 CC chemical variant by high performance cation exchange chromatography
 CC (HCEC). The processes can also be used for purification of e.g.
 CC human nerve growth factor (NGF) (see AAW48886), mouse NGF (see
 CC AAW48887), brain-derived neurotrophic factor (see AAW48888) and
 CC neurotrophin-4/5 (see AAW48890). The processes allow separation of
 CC neurotrophins from various undesirable misprocessed, misfolded,
 CC size, glycosylated or charge forms. They allow selective
 CC separation from variants and other molecules, and from other
 CC polypeptides with high PI. The processes are applicable to
 CC starting materials from various sources, including fermentation
 CC broths or lysed bacterial or mammalian cells.
 XX
 XX Sequence 119 AA:
 SQ
 Query Match 98.9%; Score 646; DB 19; Length 119;
 Best Local Similarity 100.0%; Pred. No. 1.3e-60;
 Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 YAEHSHRGEYSVCSESLMTDKSSAIDIRGHQVTVLGEITGNSPVKQFYETRCKEA 61
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 1 YAEHSHRGEYSVCSESLMTDKSSAIDIRGHQVTVLGEITGNSPVKQFYETRCKEA 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 QY 62 RPKVNCRCRIDDKHNNKSOCKTSQTVYRALTSENKLVGWRWIRIDTSCVSALSRKIGRT 120
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 61 RPKVNCRCRIDDKHNNKSOCKTSQTVYRALTSENKLVGWRWIRIDTSCVSALSRKIGRT 119
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||

RESULT 2
 AAB29113
 ID AAB29113 standard; Protein: 119 AA.
 XX
 AC AAB29113;
 XX
 XX 02-FEB-2001 (first entry)
 DT
 XX
 XX Human neurotrophin-3.
 DE
 XX
 XX Neurotrophin: trkB; trkC; ototoxicity-related balance impairment;
 KW Meniere's syndrome; myringitis; otitis media;
 KW acute vestibular neuronitis; herpes zoster oticus; labyrinthitis;
 KW middle; labyrinthine tumour; petrositis; otosclerosis; bacteria.
 XX
 OS Homo sapiens.
 XX
 XX US6121235-A.
 PN
 XX
 PD 19-SEP-2000.
 XX
 XX 29-DEC-1995; 95US-0581662.
 PF
 XX 29-DEC-1995; 95US-0581662.
 PR
 XX 29-DEC-1995; 95US-0581662.
 PA (GETH) GENENTECH INC.
 XX
 XX Gao W;
 PI

XX
 DR WPI: 2000-618200/59.
 XX
 XX Treating ototoxin-induced neuronal-related balance impairment and
 PT promoting vestibular ganglion neuron survival prior to, upon or after
 PT exposure to an ototoxin, comprises administering a trkB or trkC agonist
 PT
 XX
 XX Disclosure: Column 47-50; 40pp; English.
 PS
 XX
 XX The present invention relates to treating ototoxin-induced
 CC neuronal-related balance impairment in a mammal by administering a
 CC trkB or trkC agonist, particularly neurotrophin-4/5 (NT-4/5).
 CC Ototoxicity-related balance impairments include Meniere's syndrome,
 CC myringitis, otitis media, acute vestibular neuronitis, herpes zoster
 CC oticus, labyrinthitis, middle or labyrinthine tumours, petrositis and
 CC otosclerosis. NT-4/5 may also be used to treat diseases
 CC induced by gram positive, gram negative and acid-fast bacteria. The
 CC present sequence is a protein used in the invention.
 CC
 XX
 XX Sequence 119 AA:
 SQ
 Query Match 98.9%; Score 646; DB 21; Length 119;
 Best Local Similarity 100.0%; Pred. No. 1.3e-60;
 Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 YAEHSHRGEYSVCSESLMTDKSSAIDIRGHQVTVLGEITGNSPVKQFYETRCKEA 61
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 1 YAEHSHRGEYSVCSESLMTDKSSAIDIRGHQVTVLGEITGNSPVKQFYETRCKEA 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 QY 62 RPKVNCRCRIDDKHNNKSOCKTSQTVYRALTSENKLVGWRWIRIDTSCVSALSRKIGRT 120
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 61 RPKVNCRCRIDDKHNNKSOCKTSQTVYRALTSENKLVGWRWIRIDTSCVSALSRKIGRT 119
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||

RESULT 3
 AAR11359
 ID AAR11359 standard; Protein: 281 AA.
 XX
 AC AAR11359;
 XX
 XX 31-MAY-1991 (first entry)
 DT
 XX
 XX Neurotrophin-3.
 DE
 XX
 XX NT-3; nerve growth factor; NGF; brain derived neurotrophic factor;
 KW BDNF; Alzheimers disease; Parkinsonism; central nervous system; CNS;
 KW neuropathy.
 KW
 XX
 OS Homo sapiens.
 XX
 XX
 XX Key Location/Qualifiers
 FH Protein 25..281
 FT /label= prepro NT3
 FT /label= 163..281
 FT Protein /label= mature NT3
 FT
 XX
 PN WO9103569-A.
 PN
 XX
 PD 21-MAR-1991.
 XX
 XX 29-AUG-1990; 90MO-US04916.
 PF
 XX
 XX 20-AUG-1990; 90US-0570189.
 PR
 XX 30-AUG-1989; 89US-0400591.
 PR
 XX 07-MAR-1990; 90US-0490004.
 PR
 XX
 PA (PLAC) MAX PLANCK GES. WISSENSCH.
 PA (REGG-) REGENERON PHARM INC.
 XX
 XX Hohn A, Leibrock J, Bailey K, Barde YA, Thoenen H;
 PI Maisonnierre PC, Furlme, Lindsay RM;
 XX

DR WPI: 1991-102084/14.
 DR N-PSDB; AAQ111147.
 XX New neurotrophin-3, neurotrophic factor - related to nerve
 PT growth- and brain derived neurotrophic-factor, for diagnosis and
 PT treatment of neurological disorders.
 XX
 PS Claim 26; Fig 11; 149pp; English.
 XX
 CC NT-3 is a new neurotrophic factor and is a member of the NGF/BDGF
 CC gene family. The sequence was deduced from the DNA sequence of a
 CC clone isolated from a human placental genomic DNA library using
 CC probes prep. from sequences of NGF and BDNF. The clone contg. the
 CC longest insert was designated phln3(G1).
 CC See also AAR11357 and R111358.
 CC
 XX Sequence 281 AA:
 SQ
 Query Match 98.9%; Score 646; DB 12; Length 281;
 Best Local Similarity 100.0%; Pred. No. 3.8e-60;
 Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 2 YAEHSHRGEYSVCDSESLWYTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
 Db 163 YAEHSHRGEYSVCDSESLWYTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 222
 Oy 62 RPYVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSRKIGRT 120
 Db 223 RPYVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSRKIGRT 281
 RESULT 4
 AAR37800
 ID AAR37800 standard; Protein: 281 AA.
 AC AAR37800;
 XX
 DT 29-SEP-1993 (first entry)
 XX
 DE Human NT-3.
 XX
 KM Chimeric; human; prepro; NGF; brain-derived neurotrophic factor; rat;
 KM BDNF; chimera; fusion; nerve growth factor; peripheral; precursor;
 KM central; nervous system; dorsal root ganglion neuron; NT-3; homology;
 KM neurotrophin; nodose ganglion.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT Region 25..162
 FT Protein /note="Human NT-3 prepro region"
 FT 163..281
 FT /note="Human NT-3 mature protein"
 PN MO9310150-A.
 XX
 PD 27-MAY-1993.
 XX
 PF 13-NOV-1992; 92MO-US09792.
 XX
 PR 14-NOV-1991; 91US-0792492.
 XX
 PA (AMGE-) AMGEN.
 PA (REGE-) REGENERON PHARM INC.
 PI Gies D, Hu SS, Ip N, Squinto SP, Yancopoulos GD;
 XX WPI: 1993-182492/22.
 DR N-PSDB; AAQ42572.
 XX Eukaryotic expression of neurotrophins - using prepro region of a
 PT different neurotrophin for more efficient post-translational
 PT processing

XX
 PS Disclosure; Fig 5; 80pp; English.
 XX
 CC The sequences given in AAR37800-01 represent human and rat
 CC neurotrophin-3 (NT-3) respectively. NT-3 has a similar structure to
 CC brain derived neurotrophic factor (BDNF) and nerve growth factor (NGF).
 CC A putative signal sequence of 18 amino acids is followed by a prosequence
 CC of 121 amino acids. The 6 Cys residues present in NGF and BDNF are
 CC conserved in NT-3 and are thought to be involved in the formation of
 CC disulphide bridges. A high degree of homology is noted between rat and
 CC human NT-3 within the region encoding the mature protein. The amino
 CC acid sequences of the mature proteins appear absolutely identical. NT-3
 CC is capable of promoting survival and neurite outgrowth of dissociated
 CC dorsal root ganglion neurons in culture. NT-3 is observed to promote
 CC neurite outgrowth from both nodose ganglion but not sympathetic
 CC ganglion, and NGF promoted outgrowth from sympathetic ganglion but
 CC not nodose explants. Therefore NT-3 appears to have a broader
 CC specificity of action than either BDNF or NGF.
 CC
 XX Sequence 281 AA:
 SQ
 Query Match 98.9%; Score 646; DB 14; Length 281;
 Best Local Similarity 100.0%; Pred. No. 3.8e-60;
 Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 2 YAEHSHRGEYSVCDSESLWYTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
 Db 163 YAEHSHRGEYSVCDSESLWYTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 222
 Oy 62 RPYVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSRKIGRT 120
 Db 223 RPYVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSRKIGRT 281

RESULT 5
 AAR29495
 ID AAR29495 standard; Protein: 119 AA.
 AC AAR29495;
 XX
 DT 22-APR-1993 (first entry)
 XX
 DE NT-3, mouse.
 XX
 KM Neurotrophin; NT; nerve growth factor; NGF;
 KM brain-derived neurotrophic factor; BDNF.
 XX
 OS Mus musculus.
 XX
 PN MO9220365-A.
 XX
 PD 26-NOV-1992.
 XX
 PF 20-MAY-1992; 92MO-US04266.
 XX
 PR 21-MAY-1991; 91US-0703450.
 PR 12-JUL-1991; 91US-0729253.
 PR 23-JUL-1991; 91US-0734422.
 PR 28-AUG-1991; 91US-0751356.
 PR 20-SEP-1991; 91US-0762674.
 PR 14-NOV-1991; 91US-0791924.
 XX
 PA (REGE-) REGENERON PHARM INC.
 PI Hallbook F, Ibanez Moliner CF, Persson HB, Yancopoulos GD;
 XX WPI: 1992-415468/50.
 DR Use of neurotrophin-4 for promoting growth and survival of nerve
 PT cells - useful in treating neurological, fertility and
 PT immunological disorders and in diagnosis
 XX Disclosure; Page 106-107 + Fig 4B; 180pp; English.

XX A comparison of the mature NT-4 protein (Xenopus) to the mature
CC NfF, BDNF, and NT-3 proteins from mouse (revealed 51%, 60% and 58%
CC amino acid identity respectively. See sequences AAR29491 and
CC AAR29493-95.
XX
SQ Sequence 119 AA;
Query Match 98.2%; Score 641; DB 13; Length 119;
Best Local Similarity 99.2%; Pred. No. 4.3e-60;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 2 YAEHSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
DB 1 YAEHSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60
QY 62 RPKVNGCGIDDKHMNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSKRIGRT 120
DB 61 RPKVNGCGIDDKHMNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSKRIGRT 119
RESULT 6
AAR54086
ID AAR54086 standard; protein: 119 AA.
XX
AC AAR54086;
XX
DT 10-NOV-1994 (first entry)
XX
DE Neurotrophin-3.
XX
KM Nerve growth factor; NGF; chimeric neurotrophin; neurotrophic factor;
KM brain-derived neurotrophic factor; BDNF; neurotrophin-3; NF-3;
KM TrkB; TrkB; TrkC; receptor; neurological disorder;
KM Parkinson disease; Alzheimer disease.
XX
OS Rattus sp.
XX
PN W09412539-A.
XX
PD 09-JUN-1994.
XX
PF 19-NOV-1993; 93WO-US11292.
XX
PR 20-NOV-1992; 92US-0979630.
XX
PA (MCIN/) MCINTYRE K R.
XX
PI Ibanez CFM, Persson HB;
XX
DR WPI: 1994-200202/24.
XX
PT New chimeric neurotrophic factors and DNA - used to develop
PT prods. for use in the treatment and diagnosis of neurological
PT disorders
XX
PS Disclosure: Page 50; 79pp; English.
XX
CC Sequences are provided for rat nerve growth factor (AAR54084), rat
CC brain-derived neurotrophic factor (AAR54085) and rat neurotrophin-3
CC (AAR54086). Chimeric neurotrophins capable of binding TrkA, TrkB and
CC TrC are obtained by substituting amino acids 3-9, 28-31, 40-49,
CC 61-66, 81-88, 94-98 or 95-97 of a neurotrophin with corresponding
CC amino acids from NGF, BDNF or NT-3. Recombinant chimeric
CC neurotrophins are used to treat e.g. Alzheimer disease and
CC Parkinson disease.
XX
SQ Sequence 119 AA;
Query Match 98.2%; Score 641; DB 15; Length 119;
Best Local Similarity 99.2%; Pred. No. 4.3e-60;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 YAEHSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
DB 1 YAEHSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60
QY 62 RPKVNGCGIDDKHMNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSKRIGRT 120
DB 61 RPKVNGCGIDDKHMNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSKRIGRT 119
RESULT 7
AAR81118
ID AAR81118 standard; protein: 119 AA.
XX
AC AAR81118;
XX
DT 01-MAR-1999 (first entry)
XX
DE Neurotrophin-3 wild type.
XX
KM Nerve growth factor; TrkC; neuron; neural disease; animal feed;
KM neurotrophin assay; nerve cell culture media; neurotrophic factor; NT-3;
KM TrkA; TrkB.
XX
OS Homo sapiens.
XX
PN W09849308-A1.
XX
PD 05-NOV-1998.
XX
PF 23-APR-1998; 98WO-US08242.
XX
PR 29-APR-1997; 97US-0841045.
XX
PR 25-APR-1997; 97US-0845541.
XX
PA (GENTH) GENENTECH INC.
XX
PI Presta LG, Urfer R, Winslow JW;
XX
DR WPI: 1999-009429/01.
XX
PT New variants of nerve growth factor able to bind TrkC - contain
PT specified mutations and have multiple neurotrophic activities in a
PT single molecule, used for treating, e.g. peripheral neuropathy
XX
PS Example 1; Page 33; 53pp; English.
XX
CC Neurotrophin-3 was used in the production of new variants of nerve growth
CC factor (NGF) with substitutions at amino acid positions: G23 and H84, and
CC one or both of V18 and V20, so that it acquires the ability to bind TrkC.
CC The variants can be used to promote development, maintenance and
CC regeneration of neurons in vivo or in vitro, so can be used to treat a
CC wide range of neural diseases, e.g. Alzheimer's, Parkinson's,
CC Huntington's and Meniere's diseases; stroke; amyotrophic lateral
CC sclerosis; epilepsy; Down's syndrome; nerve deafness; Bell's palsy, or
CC specifically, peripheral neuropathy. They are also used as cognitive
CC enhancers and can also be used for diagnosis; in animal feeds; as
CC standards for neurotrophin assays; as additives for nerve cell culture
CC media, and for generation of specific antibodies. By introducing TrkC
CC binding/signal inducing activity, the variants acquire the ability of
CC neurotrophic factor NT-3 while optionally retaining ability to bind TrkA
CC and/or B and therefore provide several activities in a single molecule,
CC with more predictable pharmacokinetic and other properties than a mixture
CC of agents each with a single activity, and better pan-neurotrophic
CC activity than known compounds.
XX
SQ Sequence 119 AA;
Query Match 98.2%; Score 641; DB 20; Length 119;
Best Local Similarity 99.2%; Pred. No. 4.3e-60;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 2 YAEHSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
DB 1 YAEHSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60

Db 1 YAEHSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60
QY 62 RPYVNGCGRGIDDKHMSOQCKTSQTYVRALTSNNKLVGWRRIRIDTSCVSLSRKIGRT 120
Db 61 RPYVNGCGRGIDDKHMSOQCKTSQTYVRALTSNNKLVGWRRIRIDTSCVSLSRKIGRT 119

RESULT 8
AAG64995
ID AAG64995 standard; protein: 119 AA.
AC AAG64995;
XX
XX 25-SEP-2001 (first entry)
DE Nerve growth factor variant related protein SEQ ID NO: 2.
XX
XX Nerve growth factor: NGF; trkC-binding activity; trkA; trkB; neuropathy;
KM neuronal disorder; neurotrophin; variant; mutant; mutant; Bell's palsy;
KM amyotrophic lateral sclerosis; paralysis; neurodegenerative disease;
KM Parkinson's disease; Alzheimer's disease; multiple sclerosis.
XX
XX Unidentified.
OS
XX US2001012625-A1.
PN
XX 09-AUG-2001.
PD
XX 24-APR-1998; 98US-0066065.
PF
XX 25-APR-1997; 97US-0044918.
PR
XX (PRES/) PRESTA L G.
PA (URFE/) URFER R.
PA (WINS/) WINSLOW J W.
XX
XX Presta LG, Urfer R, Winslow JW;
PI WPI; 2001-464388/50.
DR
XX Nerve growth factor variants which have trkC-binding activity and
PT trkC-signal inducing activity, useful for treating a neural disorder in
PT a mammal such as peripheral neuropathy (e.g. diabetic peripheral
PT neuropathy) -
XX
XX Disclosure; Page 19-20; 34pp; English.
PS
XX The present invention provides a number of nerve growth factor (NGF)
CC variants with trkC-binding activity and trkC-signal inducing activity.
CC They may also be capable of binding to trkA and trkB. The variants are
CC useful in the treatment of neuronal disorders, including peripheral
CC neuropathy and motor-neurone disorders, such as amyotrophic lateral
CC sclerosis, Bell's palsy, and various conditions involving spinal muscular
CC atrophy, or paralysis. They are also useful for treating other human
CC neurodegenerative disorders, such as Alzheimer's disease, Parkinson's
CC disease, epilepsy, multiple sclerosis, Huntington's disease, Down's
CC syndrome, nerve deafness, Meniere's disease and other conditions
CC characterized by necrosis or loss of neurones, whether central,
CC peripheral, or motor neurones.
XX
XX Sequence 119 AA:

Query Match 98.2%; Score 641; DB 22; Length 119;
Best Local Similarity 99.2%; Pred. No. 4.3e-60;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 YAEHSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
Db 1 YAEHSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60

QY 62 RPYVNGCGRGIDDKHMSOQCKTSQTYVRALTSNNKLVGWRRIRIDTSCVSLSRKIGRT 120
Db 61 RPYVNGCGRGIDDKHMSOQCKTSQTYVRALTSNNKLVGWRRIRIDTSCVSLSRKIGRT 119

RESULT 9
AAB35946
ID AAB35946 standard; protein: 119 AA.
XX
XX AAB35946;
AC
XX 26-FEB-2001 (first entry)
DT
XX NT-3 amino acid sequence.
DE
XX Heparin binding; vascular graft; matrix; cell adhesion; growth factor;
KM wound healing; dermal wound; wound healing; NT-3.
XX
XX Unidentified.
OS
XX WO200064481-A1.
PN
XX 02-NOV-2000.
PD
XX 22-APR-1999; 99WO-IB00800.
PF
XX 22-APR-1999; 99WO-IB00800.
PR
XX 22-APR-1999; 99WO-IB00800.
XX
XX (ETHZ-) ETH ZURICH & UNIV ZURICH.
PA
XX Sakiyama SE, Hubbell JA;
PI WPI; 2001-024627/03.
DR
XX WPI; 2001-024627/03.
XX
XX Matrix for controlled release of growth factor for wound healing, has
PT substrate that attaches heparin binding peptide, protein growth factor
PT that bind heparin with low affinity, and heparin or heparin-like
PT polymer -
XX
XX Example 5; Page 21; 48pp; English.
PS
XX This invention relates to a matrix comprising a substrate capable of
CC providing attachment of a heparin binding peptide (HBP), a peptide
CC comprising a binding domain which binds heparin with high affinity,
CC heparin or heparin-like polymer, and a protein growth factor or peptide
CC fragment which has a domain that binds heparin with low affinity.
CC Included in the invention is a vascular graft comprising the matrix,
CC which is capable of supporting cell adhesion. The matrix is used for
CC delivering low heparin binding affinity growth factor proteins or
CC peptides in a controlled manner suitable for wound healing. The matrix
CC can be used in an article for treating dermal wounds, and in an
CC implantable sterilized composition capable of supporting cell adhesion.
CC The present sequence represents a growth factor protein. The protein is
CC used in an example illustrating that non-heparin-binding growth factors
CC can be released in a controlled manner from heparin-based drug delivery
CC systems based on their low affinity for heparin.
XX
XX Sequence 119 AA:

Query Match 98.2%; Score 641; DB 22; Length 119;
Best Local Similarity 99.2%; Pred. No. 4.3e-60;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 YAEHSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
Db 1 YAEHSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60

QY 62 RPYVNGCGRGIDDKHMSOQCKTSQTYVRALTSNNKLVGWRRIRIDTSCVSLSRKIGRT 120
Db 61 RPYVNGCGRGIDDKHMSOQCKTSQTYVRALTSNNKLVGWRRIRIDTSCVSLSRKIGRT 119

RESULT 10
AAW29392
ID AAW29392 standard; protein: 120 AA.
XX

```
AC AAW29392;
XX
XX 20-FEB-1998 (first entry)
DT
XX
XX Conjugate of neurotrophin-3 with polyethylene glycol.
DE
XX
XX Brain derived growth factor conjugate; BDNF; polyethylene glycol;
XX water-soluble polymer; neurotrophin-3; NT-3; methoxypolyethylene glycol;
XX trophic factor; neurodegenerative disease; Parkinson's disease;
XX amyotrophic lateral sclerosis; Huntington's disease;
XX retinal degeneration; peripheral neuropathies; Alzheimer's disease.
XX
OS Homo sapiens.
XX
XX Key Location/Qualifiers
XX FT Misc-difference 1
XX FT Modified-site 120 /note= "optionally absent"
XX FT /note= "alpha amino group of Thr modified with
XX FT methoxypolyethylene glycol"
XX
XX W09615146-A1.
XX
XX 23-MAY-1996.
XX
XX 13-NOV-1995; 95WO-US14658.
XX
XX 14-NOV-1994; 94US-0340131.
XX
XX (AMGE-) AMGEN INC.
XX
XX Kinsler OF, Yan Q;
XX
XX WPI; 1996-259779/26.
XX
XX Conjugates of brain derived growth factor or neurotrophin-3 with
XX water soluble polymer - having improved migration through brain
XX tissue compared with the free peptide, useful e.g. for promoting
XX survival and maintenance of neurons
XX
XX Claim 2; Pages 36-7; 54pp; English.
XX
XX This sequence represents a new conjugate of neurotrophin-3 (NT-3)
XX and methoxypolyethylene glycol, a water soluble polymer. The modification
XX may be at the N-terminal alpha-amino group of NT-3 or on one or several
XX of the lysine epsilon-amino acid groups of NT-3. These derivatives, and
XX similar derivatives of brain derived growth factor (BDGF) have the
XX same uses as the trophic factors BDNF and NT-3. They are useful for
XX promoting the survival and maintenance of neurons in vitro and in vivo,
XX and for treating neurodegenerative diseases, e.g. Parkinson's disease,
XX amyotrophic lateral sclerosis, Huntington's disease, retinal
XX degeneration, peripheral neuropathies or Alzheimer's disease. Use of the
XX derivatives improves migration of BDNF or NT-3 through brain tissue,
XX resulting in easier delivery to targets within the brain.
XX
XX
XX Sequence 120 AA:
XX
XX Query Match 98.2%; Score 641; DB 17; Length 120;
XX Best Local Similarity 99.2%; Pred. No. 4.3e-60;
XX Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
XX
XX 2 YAEHKSRRGEYSYCDESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVQYFETRCKEA 61
XX |||||||
XX DB 2 YAEHKSRRGEYSYCDESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVQYFETRCKEA 61
XX
XX 62 RPKVNCRCRIGIDKHMSOCKTSQTYVRALTSNNKLVGRWIRIDTSCVSAISRKIGRT 120
XX |||||||
XX DB 62 RPKVNCRCRIGIDKHMSOCKTSQTYVRALTSNNKLVGRWIRIDTSCVSAISRKIGRT 120
XX
XX
XX RESULT 11
XX AAW10014
XX ID AAW10014 standard; protein; 120 AA.
```

```
XX
XX AAW10014;
AC
XX
XX 15-SEP-1997 (first entry)
DT
XX
XX Human neurotrophin-3.
DE
XX
XX NT-3; neurotrophin 3; active; refolded; differentiation; research;
XX expression; protein induction; enzyme expression.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX FH Disulfide-bond 15..80
XX FT Disulfide-bond 58..109
XX FT Disulfide-bond 68..111
XX
XX JP09121886-A.
XX
XX 13-MAY-1997.
XX
XX 22-AUG-1996; 96JP-0220963.
XX
XX 25-AUG-1995; 95JP-0217032.
XX
XX (TAKE ) TAKEDA CHEM IND LTD.
XX
XX WPI; 1997-314237/29.
XX
XX Preparation of active correctly folded neurotrophin-3 - which can be
XX used in cell differentiation, and protein expression research
XX
XX Disclosure; Fig 1; 15pp; Japanese.
XX
XX This sequence is human neurotrophin 3 (NT-3). Active NT-3 is produced by
XX the method of the invention, which comprises transforming a prokaryotic
XX host cell with an NT-3 gene to express the NT-3, and then NT-3 produced
XX is refolded correctly in a redox buffer. The active NT-3 produced by the
XX CC method can be used as a reagent for research on the differentiation of
XX CC cells, genetic expression and induction of protein and enzyme expression.
XX
XX
XX Sequence 120 AA:
XX
XX Query Match 98.2%; Score 641; DB 18; Length 120;
XX Best Local Similarity 99.2%; Pred. No. 4.3e-60;
XX Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
XX
XX 2 YAEHKSRRGEYSYCDESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVQYFETRCKEA 61
XX |||||||
XX DB 2 YAEHKSRRGEYSYCDESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVQYFETRCKEA 61
XX
XX 62 RPKVNCRCRIGIDKHMSOCKTSQTYVRALTSNNKLVGRWIRIDTSCVSAISRKIGRT 120
XX |||||||
XX DB 62 RPKVNCRCRIGIDKHMSOCKTSQTYVRALTSNNKLVGRWIRIDTSCVSAISRKIGRT 120
XX
XX
XX RESULT 12
XX AAB10455
XX ID AAB10455 standard; protein; 120 AA.
XX
XX AAB10455;
XX
XX 01-DEC-2000 (first entry)
XX
XX Human R-methuNT protein.
XX
XX Human; R-methuNT; gastrointestinal hypomotility; constipation; diarrhea;
XX trkC neurotrophin-3 receptor; surgery; neuropathy; Parkinson's disease;
XX multiple sclerosis; irritable bowel syndrome; spinal cord injury;
XX paraplegia; quadriplegia; antidiarrhetic; laxative.
XX
XX Homo sapiens.
XX
XX Synthetic.
```


XX	PN	WO200041719-A1.
XX	PD	20-JUL-2000.
XX	PE	11-JAN-2000; 2000WO-US00682.
XX	PR	15-JAN-1999; 99US-0232171.
XX	PA	(REGE-) REGENERON PHARM INC.
XX	PI	Cedarbraun JM;
XX	DR	WPI. 2000-475953/41.
XX	PT	Treating constipation and diarrhea using agonists and antagonists of
XX	PS	trkC neurotrophin-3 receptor activity -
XX	PS	Disclosure; Page 16; 63pp; English.
CC	CC	This invention describes novel methods (I) and (II) for treating
CC	CC	disorders associated with gastrointestinal motility (i.e. constipation
CC	CC	and diarrhea (respectively), comprising administering agonists and
CC	CC	antagonists of trkC neurotrophin-3 receptor activity. (II) is used to
CC	CC	treat patients in an intensive care or coronary care unit for
CC	CC	gastrointestinal hypomotility such as acute constipation associated with
CC	CC	orthopedic, gynecological, thoracic and/or urological surgery.
CC	CC	Alternatively, the constipation may be chronic and associated with
CC	CC	enteric neuropathy, Parkinson's disease, multiple sclerosis, chronic use
CC	CC	of opiate pain killers, irritable bowel syndrome or constipation in
CC	CC	hospital patients. In particular, the constipation may be associated with
CC	CC	spinal cord injury, paraplegia or quadriplegia. The products of the
CC	CC	invention have antidiarrhetic and laxative activity. This sequence
CC	CC	represents the R-methuNT protein which is used in the method of the
CC	CC	invention. R-methuNT is produced in Escherichia coli into which a plasmid
CC	CC	containing a coding sequence for human NT-3 has been inserted. R-methuNT
CC	CC	has an amino acid sequence identical to native human NT-3 with the
CC	CC	addition of an amino terminal methionine.
XX	XX	Sequence 120 AA:
XX	XX	Query Match 98.2%; Score 641; DB 21; Length 120;
XX	XX	Best Local Similarity 99.2%; Pred No. 4.3e-60;
XX	XX	Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0
OY	DB	2 VAEHKSHRGEYSVCDESLAWYTDKSSAIDIRGHQYVVLGEIKTGNSPVKQYFETRCKEA 61
DB	OY	2 VAEHKSHRGEYSVCDESLAWYTDKSSAIDIRGHQYVVLGEIKTGNSPVKQYFETRCKEA 61
OY	OY	62 RYKKNKGRIDDKHNSOCKTSQTYVYRALTSENKLVGMWRWIRIDPSCVSAISRKTGRT 120
DB	OY	62 RYKKNKGRIDDKHNSOCKTSQTYVYRALTSENKLVGMWRWIRIDPSCVSAISRKTGRT 120
DB	DB	62 RYKKNKGRIDDKHNSOCKTSQTYVYRALTSENKLVGMWRWIRIDPSCVSAISRKTGRT 120
XX	XX	RESULT 13
XX	ID	AAE05868 standard; protein; 120 AA.
XX	AC	AAE05868;
XX	DT	24-SEP-2001 (first entry)
XX	XX	Human recombinant neurotrophic factor-3 (NT-3), r-methuNT-3.
XX	XX	Human: isoelectric point; pI: neurotrophic factor-3; NT-3:
XX	XX	pharmacokinetic behaviour; recombinant protein; r-methuNT-3.
XX	OS	Homo sapiens.
XX	XX	Key Location/Qualifiers
XX	FT	Misc-difference 1
XX	FT	/note="This residue is expressed when the protein is
XX	FT	produced recombinantly in E. coli bacterial cells;

	This protein is expressed without the methionine residue when occurring naturally in mammalian cells"
FT	
PX	
PN	
B1.	
US6271364-B1.	
XX	
PD	
XX	
PF	
99US-0255953.	
XX	
PR	
23-FEB-1999;	
99US-0255953.	
XX	
PA	
(AMGE-) AMGEN INC.	
XX	
PI	
Cheung ENT, Boone TC, Hershenson SI,	
Young JD:	
DR	
WPI; 2001-464215/50.	
XX	
PT	
Polypeptide analogs of the neurotrophin factor (NT-3) and its recombinant production method -	
PS	
Disclosure; Fig 1; 24pp: English.	
CC	
The present invention relates to a method for production of a polypeptide analogue of a cationic polypeptide selected from 4 fully defined polypeptide sequences, where the polypeptide analogue has an isolectric point which is lower and an in vivo circulating life and/or absorption which is increased relative to those properties in unmodified CC neurotransphic factor-3 (NT-3). The method is useful for producing certain CC analogues of NT-3 which have a relatively lower pI, yet retain the structure and biological activity of the protein in its 'native' state, CC to assess the impact of the pI on the pharmacokinetic behaviour of proteins. The present sequence is human recombinant neurotrophic CC factor-3 (NT-3), r-methumT-3. This sequence is recombinantly produced in E. coli bacterial cells and thus expressing the methionline residue at CC N-termminus.	
SQ	
Sequence 120 AA:	
Query Match 98.2%; Score 641; DB 22; Length 120; Best Local Similarity 99.2%; Pred.No. 4,3e+60;	
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;	
QY 2 YAEHSHRGEIVCVCSSESLMTDKSSAIDIRGHOTVUGETKGTSPVKOIFRETRCKEA 61 DB 2 YAEHSKRHEVCVCSSESIMLTDKSSADIRDHQVTVGIEITGNSPKOYEERCKEA 61 QY 62 RPYKKGCRCIGIDDKHNNISOCKTSQTIVRALTLSENKLTVGMWRIRIDTSCVALSRKRGRT 120 DB 62 RPVNKGCRIGDDKHNNISOCKTSQTIVRALTLSENKLTVGMWRIRIDTSCVALSKRKGRHT 120 RESULT 14 AA11306 AA11306 ID AARL1306 standard; Protein: 136 AA. XX AC AARL1306; XX DT 29-MAY-1991 (first entry) DE Nerve Growth Factor-like pro-protein from human glioma cells. KW nerve growth factor; NGF; cell proliferation; glioma cell. OS Homo sapiens. FH Key Location/Qualifiers PEptide 1..17 Protein /label= propeptide Peptide 18..136 /label= NGF-like polypeptide 18..31 /label= claimed partial peptide /note= "12-14 successive amino acids from this FT	

FT Peptide 127..135 peptide are claimed
 FT /label= claimed partial peptide
 FT /note= "8-9 successive amino acids from this
 FT peptide are claimed"
 XX
 PN EP418590-A.
 XX
 PD 27-MAR-1991.
 XX
 PF 24-AUG-1990; 90EP-0116234.
 XX
 PR 28-AUG-1989; 89JP-0218711.
 XX 25-MAY-1990; 90JP-0134058.
 XX
 PA (TAKE) TAKEDA CHEMICAL IND KK.
 XX
 PI Nakahama K, Fukuda T, Kurokawa T, Kuroshima K;
 XX WPI: 1991-088264/13.
 DR N-PSDB: AAQ11097.
 XX
 PT Antibodies for peptide having sequence similar to nerve growth
 PT factor - for use in medicine in simple and accurate immunoassay
 XX
 PS Disclosure: Fig 2; 42pp: English.
 XX
 CC A human glioma-derived lambda gtl1 cDNA library was used to infect E.
 CC coli X1090 and the colonies transferred to a nylon membrane. The
 CC filter was screened with labelled DNA coding for human beta-NGF as a
 CC probe. A positive clone was designated "lambda beta-NGF131" and was
 CC digested with EcoRI. The insert was cloned in EcoRI-digested pUC118
 CC to give plasmid pUNK5. The cDNA insert was sequenced and the deduced
 CC amino acid sequence was found to have 60 per cent homology to human
 CC beta-NGF. The invention relates to an antibody to a peptide
 CC including at least 8 consecutive amino acids from position 18 to
 CC position 135 of this sequence.
 CC See also AAQ11096.
 CC
 SQ Sequence 136 AA;
 Query Match 98.2%; Score 641; DB 12; Length 136;
 Best Local Similarity 99.2%; Pred. No. 5, 1e-60;
 Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 2 YAEHKSRRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYETRECKEA 61
 DB 18 YAEHKSRRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYETRECKEA 77
 QY 62 RPYKNGCRGIDDKHNSOCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSALSRKIGRT 120
 DB 78 RPYKNGCRGIDDKHNSOCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSALSRKIGRT 136
 RESULT 15
 AAR26273
 ID AAR26273 standard; Protein: 240 AA.
 XX
 AC AAR26273;
 XX
 DT 04-FEB-1993 (first entry)
 XX
 DE NGF2/NT-3 in PTB1339.
 XX
 KW NGF-2; PTB1344; drug: hippocampus; cerebellum; nodose ganglion.
 XX
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Peptide 1..18
 FT /label= Signal_peptide
 FT Peptide 19..126
 FT /label= Pro-peptide

FT Protein 127..240
 FT /label= Mature_NGF2/NT-3
 XX
 PN EP499993-A.
 XX
 PD 26-AUG-1992.
 XX
 PF 15-FEB-1992; 92EP-0102555.
 XX
 PR 18-FEB-1991; 91JP-0023579.
 XX
 PA (TAKE) TAKEDA CHEM IND LTD.
 XX
 PI Igarashi K, Iwane M, Kaisho Y;
 XX WPI: 1992-286117/35.
 DR N-PSDB: AAQ27513.
 XX
 PT Prodn. of human nerve growth factor-2 - used in research on brain
 PT and nervous system and as drug for senile dementia
 XX
 PS Disclosure: Fig 8; 7pp: English.
 XX
 CC The sequences given in AAR26272-73 are the protein encoded by the
 CC sequences of the human nerve growth factor-2 gene (NGF2/NT-3) with in
 CC the plasmids PTB1339 or PTB1344. (See also AAQ27510-11). NGF2/NT-3 is
 CC highly expressed in the human hippocampus and cerebellum. It is
 CC expressed more highly in newborn animals than in adults. It acts on
 CC nerve cells, such as nodose ganglion derived nerve cells and is thought
 CC to play a key role in nervous system development. The NGF2/NT-3
 CC obtained by culturing plasmids PTB1339 or PTB1344 may be used as a
 CC reagent for research on the brain and nervous system and may be
 CC expected to serve as a therapeutic drug for senile dementia. The
 CC plasmid vectors used allow production of NGF2/NT-3 stably and in
 CC large amounts ie. for industrial large scale production.
 CC
 SQ Sequence 240 AA;
 Query Match 98.2%; Score 641; DB 13; Length 240;
 Best Local Similarity 99.2%; Pred. No. 1e-59;
 Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 2 YAEHKSRRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYETRECKEA 61
 DB 122 YAEHKSRRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYETRECKEA 181
 QY 62 RPYKNGCRGIDDKHNSOCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSALSRKIGRT 120
 DB 182 RPYKNGCRGIDDKHNSOCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSALSRKIGRT 240
 Search completed: December 2, 2002, 15:08:40
 Job time : 24.9156 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 ; Search time 9.56624 Seconds
(without alignments)
1205.921 Million cell updates/sec

Title: US-10-072-681-5

Perfect score: 653

Sequence: 1 PYAEKSHNGEYVCDSESL.....RMIRIDTSCVSLSKRIKRT 120

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

1: PIR_73:*
2: PIR1:*
3: PIR2:*
4: PIR3:*
5: PIR4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	641	98.2	257	2 C40304	neurotrophin-3 pre
2	641	98.2	258	2 S09155	neurotrophin-3 pre
3	641	98.2	282	2 A35781	hippocampus-derive
4	638	97.7	257	2 I50400	neurotrophin-3 pre
5	392.5	60.1	243	2 A26311	nerve growth facto
6	385	59.0	235	2 I4481	nerve growth facto
7	382.5	58.6	229	2 I46614	nerve growth facto
8	378.5	58.0	245	2 I56570	beta-nerve growth
9	378	57.9	236	2 JH0400	neurotrophin-4 pre
10	375.5	57.5	125	2 A26312	nerve growth facto
11	373.5	57.2	286	1 NGHUBM	nerve growth facto
12	371.5	56.9	241	2 JI0097	nerve growth facto
13	370	56.7	303	1 NGRTBA	nerve growth facto
14	368.5	56.4	307	1 NGMSWG	nerve growth facto
15	364	54.2	247	2 A40304	brain-derived neur
16	354	54.2	249	2 S12555	brain-derived neur
17	354	54.2	249	2 B40304	brain-derived neur
18	354	54.2	252	2 A30361	brain-derived neur
19	352.5	54.0	243	2 I51193	nerve growth facto
20	352	53.9	209	2 B42887	neurotrophin-4 pre
21	350	53.6	210	2 A42687	neurotrophin-4 pre
22	350	53.6	248	2 JC6183	brain-derived neur
23	349	53.4	117	2 S28161	nerve growth facto
24	349	53.4	269	2 I51708	brain-derived neur
25	345	52.8	114	2 I50605	brain-derived neur
26	343	52.5	114	2 I84765	brain-derived neur
27	326	49.5	114	2 I51599	brain-derived neur
28	323.5	49.5	116	1 NGNXXI	nerve growth facto
29	317.5	48.6	116	2 A58566	nerve growth facto

30	317.5	48.6	246	2 A59218	nerve growth facto
31	295.5	45.3	194	2 I51709	nerve growth facto
32	266	40.7	286	2 S50855	neurotrophin-6 - s
33	78	11.9	1268	2 B88209	protein K02A2.6 [1
34	72	11.0	390	2 JC4023	transforming growt
35	71.5	10.9	145	2 S74292	hypothetical prote
36	71.5	10.9	647	2 C87693	acetyl-coA synthet
37	71	10.9	326	2 T10166	restriction endonu
38	71	10.9	498	2 B83884	beta-xylosidase /
39	71	10.9	783	2 B91124	probable isomerase
40	71	10.9	40	2 A85969	probable isomerase
41	70.5	10.8	718	2 T05840	subtilisin-like pr
42	70	10.7	759	2 S53922	subtilisin-like pr
43	70	10.7	1099	2 T18257	PMT6 protein - yea
44	69.5	10.6	195	2 A13153	phospholipase C -
45	69.5	10.6	230	2 A98134	hypothetical prote

ALIGNMENTS

RESULT 1
C40304
neurotrophin-3 precursor - human
N:Alternate names: nerve growth factor 2; NGF-2
C:Species: Homo sapiens (man)
C>Date: 03-Apr-1992 #sequence_revision 30-Sep-1993 #text_change 16-Jul-1999
C/Accession: A36208; JH0141; C40304; S10719; C60536
R:Jones, K.R.; Reichardt, L.F.
Proc. Natl. Acad. Sci. U.S.A. 87, 8060-8064, 1990
A>Title: Molecular cloning of a human gene that is a member of the nerve growth facto
A:Reference number: A36208; MWID:91045937; PMID:2236018
A:Accession: A36208
A:Molecule type: DNA
A:Residues: 1-257 <ON>
A:Cross-references: GB:M37763; NID:g189300; PIDN:AA59953.1; PID:g189301
R:Rosenblatt, A.; Goeddel, D.V.; Nguyen, T.; Lewis, M.; Shih, A.; Laramee, G.R.; Nikol
Neuron 4, 767-773, 1990
A>Title: Primary structure and biological activity of a novel human neurotrophic fact
A:Reference number: JH0141; MWID:90262727; PMID:2344409
A:Accession: JH0141
A:Molecule type: DNA
A:Residues: 1-257 <ROS>
R:Maizompleire, P.C.; le Beau, M.M.; Espinosa III, R.; Ip, N.Y.; Belluscio, L.; de la
Genomics 10, 558-568, 1991
A>Title: Human and rat brain-derived neurotrophic factor and neurotrophin-3: gene str
A:Reference number: A40304; MWID:91365361; PMID:1889806
A:Accession: C40304
A:Molecule type: DNA
A:Residues: 1-257 <MAI>
A:Cross-references: GB:M61180; NID:g189302; PIDN:AAA63231.1; PID:g189303
R:Kishino, Y.; Yoshimura, K.; Nakahama, K.
FEBS Lett. 266, 187-191, 1990
A>Title: Cloning and expression of a cDNA encoding a novel human neurotrophic factor.
A:Reference number: S10719; MWID:90306351; PMID:2365067
A:Accession: S10719
A:Molecule type: mRNA
A:Residues: 1-257 <RAI>
A:Cross-references: GB:X53655; NID:g287794; PIDN:CAA37703.1; PID:g287795
R:Yancopoulos, G.D.; Maizompleire, P.C.; Ip, N.Y.; Aldrich, T.H.; Belluscio, L.; Boul
Cold Spring Harb. Symp. Quant. Biol. 55, 371-379, 1990
A>Title: Neurotrophic factors, their receptors, and the signal transduction pathways
A:Reference number: A60536; MWID:92111157; PMID:1966766
A:Accession: C60536
A:Molecule type: DNA
A:Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 1-73, 'Q', '75-77', 'R', '79-108', 'T', '110-257 <YAN>
C:Genetics:
A:Gene: GDB:NTF3
A:Cross-references: GDB:125917; OMIM:162660
A:Map position: 12p13-12p13
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein

F:1-18/Domain: signal sequence #status predicted <SIG>
F:19-138/Domain: propeptide #status predicted <PRO>
F:139-257/Product: neurotrophin-3 #status predicted <MAT>
F:131/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 98.2%; Score 641; DB 2; Length 257;
Best Local Similarity 99.2%; Pred. No. 2.4e-57;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 2 YAEHSHRGEYVCDSESLMTWDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
DB 139 YAEHSHRGEYVCDSESLMTWDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 198

OY 62 RPKVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 120
DB 199 RPKVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 257

RESULT 2
S09155
neurotrophin-3 precursor - mouse
C:Species: Mus musculus (house mouse)
C:Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 16-Jul-1999
C:Accession: S09155; S51179
R:Homn, A.; Leibold, J.; Bailey, K.; Barde, Y.A.
Nature 344, 339-341, 1990
A:Title: Identification and characterization of a novel member of the nerve growth factor
A:Reference number: S09155; MUID:90190865; PMID:2314473
A:Accession: S09155
A:Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 1-258 <HOM>
A:Cross-references: GB:X53257; MID:953451; PIDN:CAA37348.1; PID:953452
R:Kolbeck, R.; Jungbluth, S.; Barde, Y.A.
Eur. J. Biochem. 225, 995-1003, 1994
A:Title: Characterisation of neurotrophin dimers and monomers.
A:Reference number: S51179; MUID:95043576; PMID:7957235
A:Accession: S51179
A:Status: preliminary
A:Molecule type: protein
A:Residues: 140-152 <KOL>
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-18/Domain: signal sequence #status predicted <SIG>
F:140-258/Product: neurotrophin-3 #status predicted <MAT>
F:131/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 98.2%; Score 641; DB 2; Length 258;
Best Local Similarity 99.2%; Pred. No. 2.5e-57;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 2 YAEHSHRGEYVCDSESLMTWDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
DB 140 YAEHSHRGEYVCDSESLMTWDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 199

OY 62 RPKVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 120
DB 200 RPKVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 258

RESULT 3
A35781
hippocampus-derived neurotrophic factor precursor - rat
N:Alternate names: neurotrophin-3 precursor
C:Species: Rattus norvegicus (Norway rat)
C:Date: 05-Oct-1990 #sequence_revision 05-Oct-1990 #text_change 16-Jul-1999
C:Accession: A35781; A40094
R:Ernfors, P.; Ibanez, C.F.; Ebendal, T.; Olson, L.; Persson, H.
Proc. Natl. Acad. Sci. U.S.A. 87, 5454-5458, 1990
A:Title: Molecular cloning and neurotrophic activities of a protein with structural simi
A:Reference number: A35781; MUID:90319130; PMID:2164684
A:Accession: A35781
A:Status: preliminary

A:Molecule type: mRNA
A:Residues: 1-282 <ERN>
A:Cross-references: GB:M34643
R:Maisonnier, P.C.; Belluscio, L.; Squinto, S.; Ip, N.Y.; Furch, M.E.; Lindsay, R.M.
Science 247, 1446-1451, 1990
A:Title: Neurotrophin-3: a neurotrophic factor related to NGF and BDNF.
A:Reference number: A40094; MUID:90208301; PMID:2321006
A:Accession: A40094
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 25-282 <MAI>
A:Cross-references: GB:M33968; MID:9205771; PIDN:AAA41727.1; PID:9205772
C:Superfamily: nerve growth factor beta chain

Query Match 98.2%; Score 641; DB 2; Length 282;
Best Local Similarity 99.2%; Pred. No. 2.7e-57;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 2 YAEHSHRGEYVCDSESLMTWDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
DB 164 YAEHSHRGEYVCDSESLMTWDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 223

OY 62 RPKVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 120
DB 224 RPKVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 282

RESULT 4
I50400
neurotrophin-3 precursor - chicken
C:Species: Gallus gallus (chicken)
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: I50400; S42227
R:Maisonnier, P.C.; Belluscio, L.; Conover, J.C.; Yancopoulos, G.D.
DNA Seq. 3, 49-54, 1992
A:Title: Gene sequences of chicken BDNF and NT-3.
A:Reference number: I50400; MUID:93091238; PMID:1457809
A:Accession: I50400
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-257 <MAT>
A:Cross-references: GB:M83378; MID:9212464; PIDN:AAA68880.1; PID:9212465
R:Hallboeck, F.; Ibanez, C.F.; Ebendal, T.; Persson, H.
Eur. J. Neurosci. 5, 1-14, 1993
A:Title: Cellular localization of brain-derived neurotrophic factor and neurotrophin-
A:Reference number: S42227; MUID:94084226; PMID:8074744
A:Accession: S42227
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 32-257 <HML>
A:Cross-references: EMBL:Z30092; MID:9455531; PIDN:CAA82908.1; PID:927570
C:Genetics:
A:Gene: NT-3
C:Superfamily: nerve growth factor beta chain

Query Match 97.7%; Score 638; DB 2; Length 257;
Best Local Similarity 98.3%; Pred. No. 4.9e-57;
Matches 117; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

OY 2 YAEHSHRGEYVCDSESLMTWDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
DB 139 YAEHSHRGEYVCDSESLMTWDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 198

OY 62 RPKVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 120
DB 199 RPKVNGCGRIDDKHMNSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 257

RESULT 5
A26311
nerve growth factor beta chain precursor - chicken (fragment)
C:Species: Gallus gallus (chicken)
C:Date: 05-Oct-1988 #sequence_revision 05-Oct-1988 #text_change 21-Jul-2000

C:Accession: A26311; A24857; S00127; S12532
 R:Ebdanal, T.; Larhammar, D.; Persson, H.
 EMO J. 5, 1483-1487, 1986
 A>Title: Structure and expression of the chicken beta nerve growth factor gene.
 A:Reference number: A26311; MUID:86300646; PMID:3017695
 A:Accession: A26311
 A:Molecule type: mRNA
 A:Residues: 1-243 <RBE>
 A:Cross-references: GB:X04003; NID:963697; PIDN:CAA27633.1; PID:g1334740
 R:Mon, D.; Perret, C.; Frechun, N.; Keller, A.; Behar, G.; Brachet, P.; Aufferay, C.
 FEBS Lett. 203, 82-86, 1986
 A>Title: Molecular cloning of the avian beta-nerve growth factor gene: transcription in
 A:Reference number: A24857; MUID:86248129; PMID:3720959
 A:Accession: A24857
 A:Molecule type: DNA
 A:Residues: 118-243 <WIO>
 A:Cross-references: GB:D00010; GB:N00010; GB:X04067; NID:9222840; PIDN:BA00008.1; PID:g
 R:Meier, R.; Becker-Andre, M.; Goetz, R.; Heumann, R.; Shaw, A.; Thoenen, H.
 EMO J. 5, 1489-1493, 1986
 A>Title: Molecular cloning of bovine and chick nerve growth factor (NGF): delineation of
 A:Reference number: A26312; MUID:86300647; PMID:2427334
 A:Accession: S00127
 A>Status: preliminary; not compared with conceptual translation
 A:Molecule type: DNA
 A:Residues: 121-243 <MEI>
 A:Cross-references: GB:M26810; NID:g212446; PIDN:AAA48984.1; PID:g212447
 R:Ibanez, C.F.; Halboeck, F.; Ebdanal, T.; Persson, H.
 EMO J. 9, 1477-1483, 1990
 A>Title: Structure-function studies of nerve growth factor: functional importance of hlg
 A:Reference number: S12532; MUID:90228346; PMID:2328722
 A:Accession: S12532
 A>Status: preliminary
 A:Molecule type: DNA
 A:Residues: 126-243 <IBA>
 C:Superfamily: nerve growth factor beta chain
 C:Keywords: growth factor
 F:1-123/Domain: signal sequence #status predicted <SIG>
 F:126-243/Product: nerve growth factor beta chain #status predicted <MAT>
 Query Match 60.1%; Score 392.5; DB 2; Length 243;
 Best Local Similarity 62.5%; Pred. No. 3.2e-32;
 Matches 70; Conservative 18; Mismatches 23; Indels 1; Gaps 1;
 Oy 8 HRGEYSVCDSESLWMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCRKARPVKNG 67
 Db 132 HRGEFSVCDVSVMVGDKTATDIDKGEVTVLGEVINNNVFKQYFETRCRDPVPSSG 191
 Oy 68 CRGIDDKHNSOCKTSQTYVRALTSNNKLVGMWIRIDPSCVLSRKIGR 119
 Db 192 CRGIDAKHNSYCTTHTTFVKALTMD-GKQAMRFIRIDPACVLSRKSGR 242
 RESULT 6
 S14481
 nerve growth factor beta chain precursor - African clawed frog
 C:Species: Xenopus laevis (African clawed frog)
 C>Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 16-Jul-1999
 C:Accession: S14481
 R:Carriero, F.; Campioni, M.; Cardinali, B.; Pierandrei-Amaldi, P.
 submitted to the EMBL Data Library, October 1990
 A:Description: Structure and expression of the nerve growth gene in Xenopus oocyte and e
 A:Reference number: S14481
 A:Accession: S14481
 A>Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-235 <CAR>
 A:Cross-references: EMBL:X55716; NID:964914; PIDN:CAA39249.1; PID:964915
 C:Superfamily: nerve growth factor beta chain
 Query Match 59.0%; Score 385; DB 2; Length 235;
 Best Local Similarity 61.9%; Pred. No. 1.7e-31;
 Matches 70; Conservative 18; Mismatches 23; Indels 2; Gaps 2;

Oy 8 HRGEYSVCDSESLWMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCRKARPVKNG 67
 Db 125 HRGEFSVCDVSVMVGDKTATDIDKGEVTVLGEVINNNVFKQYFETRCRDPVPSSG 184
 Oy 68 CRGIDDKHNSOCKTSQTYVRALTSNNKLVGMWIRIDPSCVLSRKIGR 120
 Db 185 CRGIDAKHNSYCTTHTTFVKALTMD-GKQAMRFIRIDPACVLSRK-GRT 235
 RESULT 7
 146614
 nerve growth factor B - pig (fragment)
 C:Species: Sus scrofa domestica (domestic pig)
 C>Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999
 C:Accession: 146614
 R:Lahbid-Mansais, Y.; Mellink, C.; Yerle, M.; Gellin, J.
 Cytogenet. Cell Genet. 67, 120-125, 1994
 A>Title: A new marker (NGF) on pig chromosome 4, isolated by using consensus sequenc
 A:Reference number: 146614; MUID:94313891; PMID:8039422
 A:Accession: 146614
 A>Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: DNA
 A:Residues: 1-229 <LAH>
 A:Cross-references: GB:L31898; NID:g476732; PIDN:AAA21301.1; PID:g533771
 C:Genetics:
 A:Gene: NGFB
 C:Superfamily: nerve growth factor beta chain
 Query Match 58.6%; Score 382.5; DB 2; Length 229;
 Best Local Similarity 60.7%; Pred. No. 3e-31;
 Matches 68; Conservative 18; Mismatches 25; Indels 1; Gaps 1;
 Oy 8 HRGEYSVCDSESLWMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCRKARPVKNG 67
 Db 117 HRGEFSVCDVSVMVGDKTATDIDKGEVTVLGEVINNNVFKQYFETRCRDPVPSSG 176
 Oy 68 CRGIDDKHNSOCKTSQTYVRALTSNNKLVGMWIRIDPSCVLSRKIGR 119
 Db 177 CRGIDSKHNSYCTTHTTFVKALTMD-GKQAMRFIRIDPACVLSRKAGR 227
 RESULT 8
 156570
 beta-nerve growth factor - rat (fragment)
 C:Species: Rattus norvegicus (Norway rat)
 C>Date: 26-Jul-1996 #sequence_revision 26-Jul-1996 #text_change 16-Jul-1999
 C:Accession: 156570
 R:Whittemore, S.R.; Friedman, P.L.; Larhammar, D.G.; Persson, H.; Gonzalez-Carvajal,
 J. Neurosci. Res. 20, 403-410, 1988
 A>Title: Rat beta-nerve growth factor sequence and site of synthesis in the adult hip
 A:Reference number: 156570; MUID:89037223; PMID:3184206
 A:Accession: 156570
 A>Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: DNA
 A:Residues: 1-245 <RES>
 A:Cross-references: GB:N36589; NID:g205691; PIDN:AAA1697.1; PID:g205692
 C:Superfamily: nerve growth factor beta chain
 Query Match 58.0%; Score 378.5; DB 2; Length 245;
 Best Local Similarity 59.8%; Pred. No. 8.3e-31;
 Matches 67; Conservative 20; Mismatches 24; Indels 1; Gaps 1;
 Oy 8 HRGEYSVCDSESLWMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCRKARPVKNG 67
 Db 133 HRGEFSVCDVSVMVGDKTATDIDKGEVTVLGEVINNNVFKQYFETRCRAPVPSSG 192
 Oy 68 CRGIDDKHNSOCKTSQTYVRALTSNNKLVGMWIRIDPSCVLSRKIGR 119
 Db 193 CRGIDSKHNSYCTTHTTFVKALTMD-GKQAMRFIRIDPACVLSRKAR 243
 RESULT 9
 JH0400

neurotrophin-4 precursor - African clawed frog
C:Species: Xenopus laevis (African clawed frog)
C:Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 16-Jul-1999
C:Accession: JH0400
R:Hallboeek, F.; Ibanez, C.F.; Persson, H.
Neuron 6, 845-858, 1991
A:Title: Evolutionary studies of the nerve growth factor family reveal a novel member at
A:Reference number: JH0400; MUID:91222573; PMID:2025430
A:Accession: JH0400
A:Molecule type: DNA
A:Residues: 1-236 <HML>
A:Cross-references: GB:230090; NID:9455533; PIDN:CAA82906.1; PID:9455534
C:Comment: This protein belongs to the nerve growth factor family.
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-18/Domain: signal sequence #status predicted <SIG>
F:19-113/Domain: propeptide #status predicted <PRO>
F:114-226/Product: neurotrophin-4 #status predicted <MNT>
F:106/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 57.9%; Score 378; DB 2; Length 236;
Best Local Similarity 59.6%; Pred. No. 9e-31;
Matches 68; Conservative 16; Mismatches 30; Indels 0; Gaps 0;

OY 7 HRGEYSVCDSESLWYTDKSSAIDIRGHQVYVGEIKTGNSPVKQYFETRCKEARPVKN 66
DB 123 HRGEYSVCDSESLWYTDKSSAIDIRGHQVYVGEIKTGNSPVKQYFETRCKEARPVKN 182
OY 67 GCRGIDKHMNSCKTSQYVYRALTSNNKLVGMIRIRIDTSCVSLSKRIGRT 120
DB 183 GCRGVDKMKWISCKAKOSYVYRALTIIDANKLVGMIRIRIDTSCVSLSKRIGRT 236

RESULT 10
A26312
nerve growth factor beta chain precursor - bovine (fragment)
C:Species: Bos primigenius taurus (cattle)
C:Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999
C:Accession: A26312
R:Meier, R.; Becker-Andre, M.; Goetz, R.; Heumann, R.; Shaw, A.; Thoenen, H.
EMBO J. 5, 1489-1493, 1986
A:Title: Molecular cloning of bovine and chick nerve growth factor (NGF): delineation of
A:Reference number: A26312; MUID:86300647; PMID:2427334
A:Accession: A26312
A:Molecule type: mRNA
A:Residues: 1-125 <MEI>
A:Cross-references: GB:M26809; NID:9163419; PIDN:AAA30666.1; PID:9163420
C:Comment: Nerve growth factor stimulates neurite outgrowth from sympathetic and embryonic
C:Superfamily: nerve growth factor beta chain
C:Keywords: growth factor; homodimer; seminal vesicle
F:6-125/Product: nerve growth factor #status predicted <MAT>
F:20-85,63-113,73-115/Disulfide bonds: #status predicted

Query Match 57.5%; Score 375.5; DB 2; Length 125;
Best Local Similarity 59.8%; Pred. No. 8.1e-31;
Matches 67; Conservative 19; Mismatches 25; Indels 1; Gaps 1;

OY 8 HRGEYSVCDSESLWYTDKSSAIDIRGHQVYVGEIKTGNSPVKQYFETRCKEARPVKN 67
DB 13 HRGEYSVCDSESLWYTDKSSAIDIRGHQVYVGEIKTGNSPVKQYFETRCKEARPVKN 72
OY 68 GCRGIDKHMNSCKTSQYVYRALTSNNKLVGMIRIRIDTSCVSLSKRIGRT 119
DB 73 GCRGIDKHMNSCKTSQYVYRALTSNNKLVGMIRIRIDTSCVSLSKRIGRT 123

RESULT 11
NGHUBM
nerve growth factor beta chain precursor - human (fragment)
C:Species: Homo sapiens (man)
C:Date: 19-Feb-1984 #sequence_revision 19-Feb-1984 #text_change 18-Jun-1999
C:Accession: A01399; S10253
R:Ullrich, A.; Gray, A.; Berman, C.; Dull, T.J.

Nature 303, 821-825, 1983
A:Title: Human beta-nerve growth factor gene sequence highly homologous to that of mouse
A:Reference number: A93305; MUID:83244963; PMID:6688123
A:Accession: A01399
A:Molecule type: DNA
A:Residues: 1-286 <ULB>
R:Borsani, G.; Pizzuti, A.; Ruggeri, E.L.; Fallini, A.; Silani, V.; Sidel, A.; Scarla
Nucleic Acids Res. 18, 4020, 1990
A:Title: cDNA sequence of human beta-NGF
A:Reference number: S10253; MUID:90326556; PMID:2374737
A:Accession: S10253
A:Status: translation not shown
A:Molecule type: mRNA
A:Residues: 46-286 <BOR>
A:Cross-references: EMBL:X52599; NID:929476; PIDN:CAA36832.1; PID:929477
C:Comment: Nerve growth factor is found in submandibular gland in large quantities and
nic sensory ganglia in vivo and in vitro and to increase cellular neurotubule levels
C:Genetics:
A:Gene: GDB:NGFR
A:Cross-references: GDB:120233; OMIM:162030
A:Map position: 1p13.1-1p13.1
A:Introns: 41/3
C:Complex: nerve growth factor is composed of two alpha chains, two beta chains, and
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor; submandibular gland
F:1-166/Domain: signal sequence and propeptide (fragment) #status predicted <SIG>
F:167-284/Product: nerve growth factor beta chain #status predicted <MAT>
F:26,114,159,211/Binding site: carbohydrate (asn) (covalent) #status predicted
F:181-246,224-274,234-276/Disulfide bonds: #status predicted

Query Match 57.2%; Score 373.5; DB 1; Length 286;
Best Local Similarity 59.8%; Pred. No. 3.1e-30;
Matches 67; Conservative 18; Mismatches 26; Indels 1; Gaps 1;

OY 8 HRGEYSVCDSESLWYTDKSSAIDIRGHQVYVGEIKTGNSPVKQYFETRCKEARPVKN 67
DB 174 HRGEYSVCDSESLWYTDKSSAIDIRGHQVYVGEIKTGNSPVKQYFETRCKEARPVKN 233
OY 68 GCRGIDKHMNSCKTSQYVYRALTSNNKLVGMIRIRIDTSCVSLSKRIGRT 119
DB 234 GCRGIDKHMNSCKTSQYVYRALTSNNKLVGMIRIRIDTSCVSLSKRIGRT 284

RESULT 12
JL0097
nerve growth factor beta chain precursor - guinea pig
C:Species: Cavia porcellus (guinea pig)
C:Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 15-Mar-1996
C:Accession: JL0097
R:Schwarz, M.A.; Fisher, D.; Birdsaw, R.A.; Isackson, P.J.
J. Neurochem. 52, 1203-1209, 1989
A:Title: Isolation and sequence of a cDNA clone of beta-nerve growth factor from the
A:Reference number: JL0097; MUID:89177243; PMID:2926397
A:Accession: JL0097
A:Molecule type: mRNA
A:Residues: 1-241 <SCH>
A>Note: The authors translated the codon GCU for residue 214 as Asp

Query Match 56.9%; Score 371.5; DB 2; Length 241;
Best Local Similarity 58.0%; Pred. No. 4.2e-30;
Matches 65; Conservative 20; Mismatches 26; Indels 1; Gaps 1;

OY 8 HRGEYSVCDSESLWYTDKSSAIDIRGHQVYVGEIKTGNSPVKQYFETRCKEARPVKN 67
DB 129 HRGEYSVCDSESLWYTDKSSAIDIRGHQVYVGEIKTGNSPVKQYFETRCKEARPVKN 188

OY 68 CRGIDDKHMSOCTQTYVRAITSENKLVGMWRIRDTSCVSLSKRIGR 119
||||| ||||| | : : : : : | : : : : : | : : : : : | : : : : : |
Db 189 CRGIDSKHMSVCTTHTFVKALTTA-NKQAMRFIRIDTACVCLNKRAR 239

RESULT 13

NGRTBA
nerve growth factor beta chain precursor - multimammate rat (Mastomys natalensis)

C:Species: Mastomys natalensis

C:Date: 31-Mar-1992 #sequence,revision 31-Mar-1992 #text_change 18-Jun-1999

C:Accession: J70343

R:Fahnestock, M.; Bell, R.A.

Gene 69, 257-264, 1988

A:Title: Molecular cloning of a cDNA encoding the nerve growth factor precursor from Mas

A:Reference number: J70343; MUID:89172070; PMID:3234767

A:Accession: J70343

A:Molecule type: mRNA

A:Residues: 1-303 <FAH>

A:Cross-references: GB:M22748; NID:g202514; PIDN:AAA40599.1; PID:g202515

A:Note: It is uncertain whether Met-1 or Met-63 is the Initiator

C:Superfamily: nerve growth factor beta chain

C:Keywords: glycoprotein; growth factor; homodimer; submaxillary gland

F:184-301/Product: nerve growth factor beta chain #status predicted <MAT>

F:131,176,228/Binding site: carbohydrate (Asn) (covalent) #status predicted

F:198-263,241-291,251-293/Disulfide bonds: #status predicted

Query Match

Best Local Similarity 56.7%; Score 370; DB 1; Length 303;

Matches 67; Conservative 24; Mismatches 23; Indels 10; Gaps 2;

OY 5 HKSR-----GEYSVDSLSLWTDKSSAIDIRGHQVTVLGEIKTNSPVKQVYFE 55

Db 179 HKSRSSHPYFQNGEFSVCDVSVWVGDKTTATDIDKNEVTVLGEVINNSVFEKQVFE 238

OY 56 TRCEARFVNKNGCRGIDDKHMSOCTQTYVRAITSENKLVGMWRIRDTSCVSLSR 115

Db 239 TKCARNVESGCRGIDSKHMSVCTTHTFVKALTTDDRG-AAAMRFIRIDTACVCLTR 297

OY 116 KIGR 119

Db 298 KAPR 301

RESULT 14

NGMSKG
nerve growth factor beta chain precursor - mouse

C:Species: Mus musculus (house mouse)

C:Date: 30-Nov-1980 #sequence,revision 19-Feb-1984 #text_change 21-Jul-2000

C:Accession: A93301; A93305; A90366; I49689; I52891; A01400; I49690

R:Scott, J.; Selby, M.; Urdeda, M.; Quiroga, M.; Bell, G.I.; Rutter, W.J.

Nature 302, 538-540, 1983

A:Title: Isolation and nucleotide sequence of a cDNA encoding the precursor of mouse ner

A:Reference number: A93301; MUID:83167518; PMID:6336309

A:Accession: A93301

A:Molecule type: mRNA

A:Residues: 1-307 <SGO>

A:Cross-references: GB:V00836; NID:g53364; PIDN:CAA24221.1; PID:g53365

R:Ulrich, A.; Gray, A.; Berman, C.; Dull, T.J.

Nature 303, 821-825, 1983

A:Title: Human beta-nerve growth factor gene sequence highly homologous to that of mouse

A:Reference number: A93305; MUID:83244969; PMID:6688123

A:Accession: A93305

A:Molecule type: mRNA

A:Residues: 1-307 <ULL>

A:Cross-references: GB:R01759; NID:g200051; PIDN:AAA39820.1; PID:g387495

A:Note: these authors believe that Met-67 is probably the amino-terminal residue and the

R:Angelletti, R.H.; Hermodson, M.A.; Bradshaw, R.A.

Biochemistry 12, 100-115, 1973

A:Title: Amino acid sequences of mouse 2.5S nerve growth factor. II. Isolation and chara

A:Reference number: A90366; MUID:73075048; PMID:4566923

A:Accession: A90366

A:Molecule type: protein

A:Residues: 188-216, 'N', 218-305 <ANG>
R:Selby, M.J.; Edwards, R.; Sharp, F.; Rutter, W.J.
Mol. Cell. Biol. 7, 3057-3064, 1987

A:Title: Mouse nerve growth factor gene: Structure and expression.

A:Reference number: I49689; MUID:88038855; PMID:3670305

A:Accession: I49689

A>Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: DNA

A:Residues: 1-307 <RES>

A:Cross-references: GB:M17298; NID:g193493; PIDN:AAA37687.1; PID:g467311

R:Ulrich, A.; Gray, A.; Berman, C.H.; Coussens, L.; Dull, T.J.

Cold Spring Harb. Symp. Quant. Biol. 48, 435-442, 1983

A:Title: Sequence homology of human and mouse beta-NGF subunit genes.

A:Reference number: I52891; MUID:84206565; PMID:6327169

A:Accession: I52891

A>Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-307 <RES>

A:Cross-references: GB:M14805; NID:g200053; PIDN:AAA39821.1; PID:g200054

C:Comment: The active molecule is a dimer of identical chains associated by noncovala

C:Comment: Nerve growth factor is found in submaxillary gland in large quantities and

nic sensory ganglia in vivo and in vitro and to increase cellular neurotubule levels

C:Genetics:

A:Gene: NGFB

A:Introns: 21/2; 62/3

C:Superfamily: nerve growth factor beta chain

C:Keywords: glycoprotein; growth factor; homodimer

F:1-187/Domain: signal sequence and propeptide #status predicted <SIG>

F:188-305/Product: nerve growth factor beta chain #status experimental <MAT>

F:135,180/Binding site: carbohydrate (Asn) (covalent) #status predicted

F:202-267,245-295,255-297/Disulfide bonds: #status experimental

F:232/Binding site: carbohydrate (Asn) (covalent) #status absent

Query Match

Best Local Similarity 56.4%; Score 368.5; DB 1; Length 307;

Matches 65; Conservative 21; Mismatches 25; Indels 1; Gaps 1;

OY 8 HGEYSVDSLSLWTDKSSAIDIRGHQVTVLGEIKTNSPVKQVYFEITRCEARFVNKNG 67

Db 195 HGEFSVCDVSVWVGDKTTATDIDKNEVTVLGEVINNSVFEKQVFEITRCEARFVNKNG 254

OY 68 CRGIDDKHMSOCTQTYVRAITSENKLVGMWRIRDTSCVSLSKRIGR 119

Db 255 CRGIDSKHMSVCTTHTFVKALTTD-EKQAMRFIRIDTACVCLSKRARR 305

RESULT 15

A40304
brain-derived neurotrophic factor precursor - human

C:Species: Homo sapiens (man)

C:Date: 03-Apr-1992 #sequence,revision 30-Sep-1993 #text_change 21-Jul-2000

C:Accession: B36208; A60536; A40304; A37218; A61115; I38072

R:Jones, K.R.; Reichardt, L.F.

Proc. Natl. Acad. Sci. U.S.A. 87, 8060-8064, 1990

A:Title: Molecular cloning of a human gene that is a member of the nerve growth facto

A:Reference number: A36208; MUID:91045937; PMID:2236018

A:Accession: B36208

A:Molecule type: DNA

A:Residues: 1-247 <JON>

A:Cross-references: GB:M37762; NID:g179402; PIDN:AAA51820.1; PID:g179403

R:Yancopoulos, G.D.; Matsoulierre, P.C.; IP, N.Y.; Aldrich, T.H.; Belluscio, L.; Boul

Cold Spring Harb. Symp. Quant. Biol. 55, 371-379, 1990

A:Title: Neurotrophic factors, their receptors, and the signal transduction pathways

A:Reference number: A60536; MUID:92111157; PMID:1966766

A:Accession: A60536

A>Status: not compared with conceptual translation

A:Molecule type: DNA

A:Residues: 1-65, 'M', 67-247 <YAN>

R:Matsoulierre, P.C.; Le Beau, M.M.; Esplnosa III, R.; IP, N.Y.; Belluscio, L.; de la

Genomics 10, 558-568, 1991

A:Title: Human and rat brain-derived neurotrophic factor and neurotrophin-3: gene str

A:Reference number: A40304; MUID:91365361; PMID:1889806

A:Accession: A40304

A:Molecule type: mRNA
 A:Residues: 1-247 <MAT>
 A:Cross-references: GB:M61176; NID:9179404; PIDN:AAA63805.1; PID:9896463
 A>Note: the sequence in Genbank entry HUMBDNFB, release 106.0, (PID:9896463) begins trar
 R:Yamamoto, H.; Gurney, M.E. 1990
 J. Neurosci. 10, 3469-3478, 1990
 A:Title: Human platelets contain brain-derived neurotrophic factor.
 A:Reference number: A37218; MUID:91038253; PMID:2230938
 A:Accession: A37218
 A>Status: not compared with conceptual translation
 A:Molecule type: mRNA
 A:Residues: 138-236 <YAM>
 R:Rosenenthal, A.; Goeddel, D.V.; Nguyen, T.; Martin, E.; Burton, L.E.; Shih, A.; Laramee,
 Endocrinology 129, 1289-1294, 1991
 A:Title: Primary structure and biological activity of human brain-derived neurotrophic f
 A:Reference number: A61115; MUID:91339743; PMID:1874171
 A:Accession: A61115
 A>Status: not compared with conceptual translation
 A:Molecule type: mRNA
 A:Residues: 1-65, 'M', 67-247 <ROS>
 R:Shintani, A.; Ono, Y.; Kalsbo, Y.; Igarashi, K.
 Biochem. Biophys. Res. Commun. 182, 325-332, 1992
 A:Title: Characterization of the 5'-flanking region of the human brain-derived neurotrof
 A:Reference number: 138072; MUID:92118032; PMID:1339267
 A:Accession: 138072
 A>Status: translated from GB/EMBL/DBJ
 A:Molecule type: mRNA
 A:Residues: 1-247 <SHI>
 A:Cross-references: EMBL:X60201; NID:93928269; PIDN:CAA42761.1; PID:9496626
 A>Note: the authors do not discuss this mRNA sequence in this reference; attribution is
 C:Genetics:
 A:Gene: GDB:BDNF
 A:Cross-references: GDB:125916; OMIM:113505
 A:Map position: 11p13-11p13
 C:Superfamily: nerve growth factor beta chain
 C:Keywords: dimer; glycoprotein
 F:1-16/Domain: signal sequence #status predicted <SIG>
 F:17-128/Domain: propeptide #status predicted <PRO>
 F:129-247/Product: brain-derived neurotrophic factor #status predicted <MAT>
 F:121/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match 54.2%; Score 354; DB 2; Length 247;

Best Local Similarity 57.4%; Pred. No. 2.5e-28; Mismatches 30; Indels 2; Gaps 1;

Matches 66; Conservative 17; Mismatches 30; Indels 2; Gaps 1;
 OY 7 SHRGEXVCDSESLAWT--DKSSAIDIRGHQVYVLGEIKTGNPSVQYFETCKEAPV 64
 : ||| ||||| ||| ||| : ||| : ||||| :
 DB 133 ARRGELSVCDSESLAWTADKRAVMSGTVLEKVPVSKGQLKQYFETCNPMGYT 192
 : ||| ||||| ||||| : ||| : ||||| :
 OY 65 KNCRCGIDDKHWNSSCKTSQTVYRALTSNNKLVGWRMIRIDTSCVSAISRKTGR 119
 : ||||| : ||||| : ||||| : ||| : ||||| : ||| : |||
 DB 193 KECRCGIDDKHWNSSCKRTQSVYRALTMDSKRIKGRFIRIDTSCVCTLTIKRGR 247

Search completed: December 2, 2002, 15:14:00
 Job time : 10.5662 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 ; Search time 4.9238 Seconds
(without alignments)
1010.837 Million cell updates/sec

Title: US-10-072-681-5
Perfect score: 653
Sequence: 1 PYAEKSHRGEXVCSDESLS.....RWIRIDTSCVSAISRKRGRT 120

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues
Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_40:.*
Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	641	98.2	257	1 NT3_HUMAN	P20783 homo sapien
2	641	98.2	258	1 NT3_MOUSE	P20181 mus musculu
3	641	98.2	258	1 NT3_RAT	P18280 rattus norv
4	638	97.7	257	1 NT3_CHICK	P25433 gallus gall
5	634	97.1	257	1 NT3_FELCA	091st2 felis silve
6	619	94.8	260	1 NT3_XENLA	P25435 xenopus lae
7	392.5	60.1	243	1 NGF_CHICK	P05200 gallus gall
8	385	59.0	231	1 NGF_XENLA	P21617 xenopus lae
9	382.5	58.6	229	1 NGF_PIG	Q29074 sus scrofa
10	378.5	58.0	241	1 NGF_RAT	P25427 rattus norv
11	378	57.9	236	1 NT4_XENLA	P24727 xenopus lae
12	373.5	57.0	241	1 NGF_HUMAN	P01138 homo sapien
13	372.5	57.0	231	1 NGF_BOVIN	P13600 bos taurus
14	371.5	56.9	241	1 NGF_CAVO	P19093 cavia porce
15	370	56.7	241	1 NGF_PRANA	P20675 praomys nat
16	368.5	56.4	241	1 NGF_MOUSE	P25429 mus musculu
17	365	54.5	246	1 BDNF_CHICK	P25429 gallus gall
18	355	54.4	255	1 BDNF_CAVO	070183 cavia porce
19	354	54.2	247	1 BDNF_HUMAN	P23560 homo sapien
20	354	54.2	247	1 BDNF_PROLO	018755 procyon lot
21	354	54.2	247	1 BDNF_URSAR	018752 ursus arcto
22	354	54.2	247	1 BDNF_URSML	018753 ursus malay
23	354	54.2	249	1 BDNF_MOUSE	P21237 mus musculu
24	354	54.2	249	1 BDNF_RAT	P23363 rattus norv
25	354	54.2	252	1 BDNF_PIG	P14082 sus scrofa
26	352.5	54.0	243	1 NGF_BOVMU	P34128 bungarus mu
27	352	53.9	209	1 NT5_RAT	P34131 rattus norv
28	350	53.6	210	1 NT5_HUMAN	P34130 homo sapien
29	350	53.6	247	1 BDNF_FELCA	091st3 felis silve
30	350	53.6	248	1 BDNF_BOVIN	095106 bos taurus
31	350	53.4	270	1 BDNF_CYPCA	090322 cyprinus ca
32	349	53.4	117	1 NGF_DABRR	P30894 dabola russ
33	349	53.4	269	1 BDNF_XIPMA	002193 xipophorus

34	343	52.5	114	1 BDNF_MACMU	O06225 macaca mula
35	326	49.9	114	1 BDNF_XENLA	P25432 xenopus lae
36	320.5	49.1	116	1 NGF_NAJNA	P01140 naja naja (
37	314.5	48.2	116	1 NGF_NAJAT	P21377 naja atra (
38	308	47.2	140	1 NT7_CYPCA	093474 cyprinus ca
39	299	45.8	233	1 NT7_BRARE	073797 brachydanto
40	295.5	45.3	194	1 NGF_XIPMA	P34129 xipophorus
41	244.5	37.4	257	1 NT6B_HUMAN	P34133 homo sapien
42	241.5	37.0	186	1 NT6A_HUMAN	P34132 homo sapien
43	238.5	36.5	257	1 NT6A_HUMAN	P34132 homo sapien
44	212	32.5	43	1 NT3_RAVCL	P25434 raja clavac
45	147	22.5	42	1 NGF_VIPLE	P25428 vipera lebe

ALIGNMENTS

RESULT 1	ID	NT3_HUMAN	STANDARD:	PRT:	257 AA.
AC	P20783:				
DT	01-FEB-1991 (Rel. 17, Created)				
DT	01-FEB-1991 (Rel. 17, Last sequence update)				
DT	15-JUN-2002 (Rel. 41, Last annotation update)				
DE	Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)				
DE	(Nerve growth factor 2) (NGF-2).				
GN	NTF3.				
OS	Homo sapiens (Human).				
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;				
OC	Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.				
OX	NCBI_TaxID=9606;				
RN	[1]				
RP	SEQUENCE FROM N.A.				
RX	MEDLINE-90262727; PubMed-2344409;				
RA	Rosenthal A., Goeddel D.V., Nguyen T., Lewis M., Shih A.,				
RA	Laramee G.R., Nikolic K., Winslow J.W.;				
RT	"Primary structure and biological activity of a novel human				
RT	neurotrophic factor.";				
RL	Neuron 4:767-773(1990).				
RN	[2]				
RP	SEQUENCE FROM N.A.				
RX	MEDLINE-91045937; PubMed-2236018;				
RA	Jones K.R., Reichardt L.F.;				
RT	"Molecular cloning of a human gene that is a member of the nerve				
RT	growth factor family.";				
RL	Proc. Natl. Acad. Sci. U.S.A. 87:8060-8064(1990).				
RN	[3]				
RP	SEQUENCE FROM N.A.				
RX	MEDLINE-90306351; PubMed-2365067;				
RA	Kaisho Y., Yoshimura K., Nakahama K.;				
RT	"Cloning and expression of a cDNA encoding a novel human neurotrophic				
RT	factor.";				
RL	FEBS Lett. 266:187-191(1990).				
RN	[4]				
RP	SEQUENCE FROM N.A.				
RX	MEDLINE-91365361; PubMed-1869806;				
RA	Maisonneuve P.C., Le Beau M.M., Espinosa R. III, Ip N.Y.,				
RA	Beluscio L., de la Monte S.M., Squinco S., Furch M.E.,				
RA	Yancopoulos G.D.;				
RT	"Human and rat brain-derived neurotrophic factor and neurotrophin-3:				
RT	gene structures, distributions, and chromosomal localizations.";				
RL	Genomics 10:558-568(1991).				
RN	[5]				
RP	SEQUENCE OF 194-236 FROM N.A.				
RC	TISSUE=Leukocyte;				
RX	MEDLINE-91222573; PubMed-2025430;				
RA	Hallboeek F., Ibanez C.F., Persson H.;				
RT	"Evolutionary studies of the nerve growth factor family reveal a				
RT	novel member abundantly expressed in Xenopus ovary.";				
RL	Neuron 6:845-858(1991).				
RN	[6]				
RP	X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).				
RX	MEDLINE-95217877; PubMed-7703225;				

RA Robinson R.C., Radziejewski C., Stuart D.I., Jones E.Y.:
RT "Structure of the brain-derived neurotrophic factor/neurotrophin 3
RL heterodimer";
RN Biochemistry 34:4139-4146(1995).
RP VARIANT GLU-76;
RA MEDLINE-95251647; PubMed-7733919;
RT Hattori M., Nanko S.:
RL "Association of neurotrophin-3 gene variant with severe forms of
schizophrenia";
RN Biochem. Biophys. Res. Commun. 209:513-518(1995).
RP VARIANT GLU-76;
RA MEDLINE-96253892; PubMed-8925252;
RT Ariama T., Takekoshi K., Itokawa M., Hamaguchi H., Toru M.:
RL "Failure to find associations of the CA repeat polymorphism in the
RT first intron and the Gly-63/Glu-63 polymorphism of the neurotrophin-3
RT gene with schizophrenia";
RL Psychiatr. Genet. 6:113-15(1996).
CC -1- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND
CC PROPRIOCEPTIVE SENSORY NEURONS.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: BRAIN AND PERIPHERAL TISSUES.
CC -1- POLYMORPHISM: Variant Glu-76 (frequently reported as Glu-63) was
CC thought to be associated with severe forms of schizophrenia. This
CC does not seem to be the case.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC -----
DR EMBL: X53655; CA937703.1; -;
DR EMBL: M37763; AA595953.1; -;
DR EMBL: M61180; AA63231.1; -;
DR PIR: JH0141; JH0141.
DR PIR: A36208; A36208.
DR PIR: S10719; S10719.
DR PIR: C40304; C40304.
DR PIR: C40304; C40304.
DR PDB: 1BND; 04-APR-96.
DR PDB: 1B8K; 09-FEB-99.
DR GeneW: HGNC:8023; NTF3.
DR MIM: 162660; -;
DR InterPro: IPR002400; GF_cysknot.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00438; GFCSKNOT.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS0270; NGF_2; 1.
KW Growth factor; Signal; Polymorphism; 3D-structure.
FT SIGNAL 1 16
FT PROPEP 17 138
FT CHAIN 139 257
FT DISULFID 152 217
FT DISULFID 195 246
FT DISULFID 205 248
FT CARBOHYD 131 131
FT VARIANT 76 76
FT SEQUENCE 257 AA; 29354 MW; 39A5BB3B28E25E03 CRC64;
FT /FTID=VAR_012084.
Query Match 98.2%; Score 641; DB 1; Length 257;
Best Local Similarity 99.2%; Pred. NO. 2.2e-59;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

DB 139 YAEKSHRGEYVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 198
OY 62 RPVKNGCRGIDDKHWNQCKTSQTVYRALTSENKLVGMWRIRIDTSCVSALSRRIGRT 120
DB 199 RPVKNGCRGIDDKHWNQCKTSQTVYRALTSENKLVGMWRIRIDTSCVSALSRRIGRT 257
RESULT 2
NT3_MOUSE
ID NT3_MOUSE STANDARD; PRT; 258 AA.
AC P20181;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)
DE (Nerve growth factor 2) (NGF-2).
GN NTF3 OR NTF-3.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_Taxid=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE-90190865; PubMed-2314473;
RA Hohn A., Leibold U., Bailey K., Barde Y.-A.:
RT Identification and characterization of a novel member of the nerve
RT growth factor/brain-derived neurotrophic factor family.";
RL Nature 344:339-341(1990).
CC -1- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND
CC PROPRIOCEPTIVE SENSORY NEURONS.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: BRAIN AND PERIPHERAL TISSUES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: X53257; CA937348.1; -;
DR PIR: S09155; S09155.
DR HSSP: P20783; 1B8K.
DR MGD: MGI:97380; Ntf3.
DR InterPro: IPR002400; GF_cysknot.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00438; GFCSKNOT.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS0270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 16
FT PROPEP 17 139
FT CHAIN 140 258
FT DISULFID 153 218
FT DISULFID 196 247
FT DISULFID 206 249
FT CARBOHYD 131 131
FT SEQUENCE 258 AA; 29587 MW; 7180DD064E8AE6042 CRC64;
FT /FTID=VAR_012084.
Query Match 98.2%; Score 641; DB 1; Length 258;
Best Local Similarity 99.2%; Pred. NO. 2.2e-59;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 62 RPVANGCGIDDKHMSOCKTSQTYVRALTSENKLVGMWRIRIDTSCVSLSRKIGRT 120
DB 200 RPVANGCGIDDKHMSOCKTSQTYVRALTSENKLVGMWRIRIDTSCVSLSRKIGRT 258

RESULT 3
NT3_RAT
ID NT3_RAT STANDARD: PRT: 258 AA.
AC p18280:
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)
DE (Nerve growth factor 2) (NGF-2).
GN NTF3 OR NTF-3.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_Taxid=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90319130; PubMed=2164684;
RA Enforfs P., Ibanez C.F., Ebdendal T., Olson L., Persson H.;
RT "Molecular cloning and neurotrophic activities of a protein with
RT structural similarities to nerve growth factor: developmental and
RT topographical expression in the brain.";
RL Proc. Natl. Acad. Sci. U.S.A. 87:5454-5458(1990).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=90208301; PubMed=2321006;
RA Maisongierre P.C., Belluscio L., Squinto S., Ip N.Y., Furth M.E.,
RA Lindsay R.M., Yancopoulos G.D.;
RT "Neurotrophin-3, a neurotrophic factor related to NGF and BDNF.";
RL Science 247:1446-1451(1990).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=91365361; PubMed=1889806;
RA Maisongierre P.C., le Beau M.M., Espinosa R. III, Ip N.Y.,
RA Belluscio L., de la Monte S.M., Squinto S., Furth M.E.,
RA Yancopoulos G.D.;
RT "Human and rat brain-derived neurotrophic factor and neurotrophin-3:
RT gene structures, distributions, and chromosomal localizations.";
RL Genomics 10:558-568(1991).
RN [4]
RP SEQUENCE OF 195-237 FROM N.A.
RC STRAIN=Sprague-Dawley; TISSUE=Liver;
RX MEDLINE=9122573; PubMed=2025430;
RA Hallboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
RN [2]
RP FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND
CC PROPRIOCEPTIVE SENSORY NEURONS.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: BRAIN AND PERIPHERAL TISSUES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: M34643; AAA41313.1; -
DR EMBL: M33968; AAA41727.1; -
DR EMBL: M61179; AAA63497.1; -
DR PIR: A35781; A35781.
DR PIR: A40094; A40094.
DR HSSP: P20783; 1B8K.
DR Interpro: IPR002400; GF_cysknot.

DR Interpro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00438; GRCYSKNOT.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 16
FT PROPEP 17 139 POTENTIAL.
FT CHAIN 140 258
FT DISULFID 153 218 BY SIMILARITY.
FT DISULFID 196 247 BY SIMILARITY.
FT DISULFID 206 249 BY SIMILARITY.
FT CARBOHYD 131 131 N-LINKED (GLCNAC...) (POTENTIAL).
SQ SEQUENCE 258 AA; 29644 MW; 74D557CF8518A1CE CRC64;
Query Match 98.2%; Score 641; DB 1; Length 258;
Best Local Similarity 99.2%; Pred. No. 2.2e-59;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 2 YAEKSHRGEYSVCDSESLMTDRSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
DB 140 YAEKSHRGEYSVCDSESLMTDRSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 199
QY 62 RPVANGCGIDDKHMSOCKTSQTYVRALTSENKLVGMWRIRIDTSCVSLSRKIGRT 120
DB 200 RPVANGCGIDDKHMSOCKTSQTYVRALTSENKLVGMWRIRIDTSCVSLSRKIGRT 258

RESULT 4
NT3_CHICK
ID NT3_CHICK STANDARD: PRT: 257 AA.
AC P25433;
DT 01-MAY-1992 (Rel. 22, Created)
DT 01-DEC-1992 (Rel. 24, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)
DE (Nerve growth factor 2) (NGF-2).
GN NTF3.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_Taxid=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=93091238; PubMed=1457809;
RA Maisongierre P., Belluscio L., Conover J.C., Yancopoulos G.D.;
RT "Gene sequences of chicken BDNF and NT-3.";
RL DNA Seq. 3:49-54(1992).
RN [2]
RP SEQUENCE OF 194-236 FROM N.A.
RX MEDLINE=9122573; PubMed=2025430;
RA Hallboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
RN [2]
RP FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND
CC PROPRIOCEPTIVE SENSORY NEURONS.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: M83378; AAA68880.1; -

DR HSSP; P20783; 1B8K.
DR InterPro: IPR002400; GF_cysknot.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00438; GFCYSKNOT.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KM SIGNAL 1 16
FT PROPEP 17 138
FT CHAIN 139 257
FT DISULFID 152 217
FT DISULFID 195 246
FT DISULFID 205 248
FT CARBOHYD 131 131
SQ SEQUENCE 257 AA; 29701 MW; E043BA2A005C1E7 CRC64;

Query Match Best Local Similarity 97.7%; Score 638; DB 1; Length 257;
Matches 117; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 2 YAEHSHRGEYVCDSESLWYTDKSSAIDIRGHQYTVLGEIKTGNSPVKQYFETRCKEA 61
DB 139 YAEHSHRGEYVCDSESLWYTDKSSAIDIRGHQYTVLGEIKTGNSPVKQYFETRCKEA 198
QY 62 RPKVNGCGIDDKHNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVCAISRKIGRT 120
DB 199 RPKVNGCGIDDKHNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVCAISRKIGRT 257

RESULT 5

NT3_FEICL STANDARD: PRT: 257 AA.
AC Q9Y9T2.
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)
DE (Nerve growth factor 2) (NGF-2).
GN NT3.
OS Felis silvestris catus (Cat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
OX NCBI_TaxID=9685;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=2021177; PubMed=10745216;
RA Lein E.S., Hohn A., Shatz C.J.;
RT "Dynamic regulation of BDNF and NT-3 expression during visual system development."
RT J. Comp. Neurol. 420:1-18(2000).
RT -1- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND PROPRIOCEPTIVE SENSORY NEURONS (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC
CC EMBL; AF192538; AAF03424.1; -
DR HSSP; P20783; 1B8K.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KM SIGNAL 1 16
FT PROPEP 17 138
FT CHAIN 139 257
FT DISULFID 152 217
FT DISULFID 195 246
FT DISULFID 205 248
FT CARBOHYD 131 131
SQ SEQUENCE 257 AA; 29701 MW; E043BA2A005C1E7 CRC64;

DR SMART; SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KM SIGNAL 1 16
FT PROPEP 17 138
FT CHAIN 139 257
FT DISULFID 152 217
FT DISULFID 195 246
FT DISULFID 205 248
FT CARBOHYD 131 131
SQ SEQUENCE 257 AA; 29403 MW; EB53F7E59C5113E4 CRC64;

Query Match Best Local Similarity 97.5%; Score 634; DB 1; Length 257;
Matches 116; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 2 YAEHSHRGEYVCDSESLWYTDKSSAIDIRGHQYTVLGEIKTGNSPVKQYFETRCKEA 61
DB 139 YAEHSHRGEYVCDSESLWYTDKSSAIDIRGHQYTVLGEIKTGNSPVKQYFETRCKEA 198
QY 62 RPKVNGCGIDDKHNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVCAISRKIGRT 120
DB 199 RPKVNGCGIDDKHNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVCAISRKIGRT 257

RESULT 6

NT3_XENLA STANDARD: PRT: 260 AA.
AC P25435.
DT 01-MAY-1992 (Rel. 22, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF) (Nerve growth factor 2) (NGF-2).
DE Xenopus laevis (African clawed frog).
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidoidea; Pipidae.
OC Xenopodinae; Xenopus.
OX NCBI_TaxID=8355;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=97252639; PubMed=9096131;
RA Xie K., Wang T., Olafsson P., Mizuno K., Lu B.;
RT "Activity-dependent expression of NT-3 in muscle cells in culture: implications in the development of neuromuscular junctions."
RT J. Neurosci. 17:2947-2958(1997).
RN [2]
RP SEQUENCE OF 197-217 FROM N.A.
RX TISSUE=Liver;
RA MEDLINE=9122573; PubMed=2025430;
RA Hallboeek F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a novel member abundantly expressed in xenopus ovary."
RT Neuron 6:845-858(1991).
RT -1- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND PROPRIOCEPTIVE SENSORY NEURONS.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC
CC EMBL; U27576; AAB17723.1; -
DR HSSP; P20783; 1B8K.
DR InterPro: IPR002400; GF_cysknot.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KM SIGNAL 1 16
FT PROPEP 17 138
FT CHAIN 139 257
FT DISULFID 152 217
FT DISULFID 195 246
FT DISULFID 205 248
FT CARBOHYD 131 131
SQ SEQUENCE 257 AA; 29403 MW; EB53F7E59C5113E4 CRC64;

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DR Pfam; PF00243; NGF_1.
DR PRINTS; PR00438; GFCYSKNOT.
DR PRODOM; PD00268; NGF.
DR PRODOM; PD002052; NGF_1.
DR SMART; SM00140; NGF_1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KM Growth factor; Signal.
FT SIGNAL 1 16
FT PROPEP 17 141
FT CHAIN 142 260
FT DISULFID 155 220
FT DISULFID 198 249
FT DISULFID 208 251
FT CARBOHYD 134 134
SO SEQUENCE 260 AA; 30022 MW; FFB8507A5EA93CC5 CRC64;

Query Match 94.8%; Score 619; DB 1; Length 260;
Best Local Similarity 94.1%; Pred. No. 4.2e-57;
Matches 112; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

OY 2 YAEKHSRGESVCDSESLWTKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
DB 142 FAEHKHSRGESVCDSESLWTKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 201
OY 62 RPYKNGCRGIDDKHWNQCKTSQTYRALTSENKLVGMWIRIDTSCVSLSRKIGRT 120
DB 202 RPYKNGCRGIDDKHWNQCKTSQTYRALTSENKLVGMWIRIDTSCVSLSRKIGRTS 260

RESULT 7
NGF_CHICK STANDARD; PRT; 243 AA.
AC P05200;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OC NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=86300646; PubMed=3017695;
RA Edendahl T., Larhammar D., Persson H.;
RT "Structure and expression of the chicken beta nerve growth factor
RT gene.";
RL EMBO J. 5:1483-1487(1986).
RN [2]
RP SEQUENCE OF 118-243 FROM N.A.
RX MEDLINE=86248129; PubMed=3720959;
RA Wlson D., Perret C., Frechin N., Keller A., Behar G., Brachet P.,
RA Auffray C.;
RT "Molecular cloning of the avian beta-nerve growth factor gene:
RT transcription in brain.";
RL FEBS Lett. 203:82-86(1986).
RN [3]
RP SEQUENCE OF 121-243 FROM N.A.
RX MEDLINE=86300647; PubMed=2427334;
RA Meier R., Becker-Andre M., Gotz R., Heumann R., Shaw A., Thoenen H.;
RT "Molecular cloning of bovine and chick nerve growth factor (NGF):
RT delineation of conserved and unconserved domains and their
RT relationship to the biological activity and antigenicity of NGF.";
RL EMBO J. 5:1489-1493(1986).
RN [4]
RP SEQUENCE OF 181-222 FROM N.A.
RX MEDLINE=91222573; PubMed=2025430;
RA Hallboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary.";

```

```

RL Neuron 6:845-858(1991).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC -----
CC EMBL; X04003; CAA27633.1; ALT_INIT.
CC EMBL; X04067; CAA27703.1; -.
CC EMBL; M26810; AAA48984.1; -.
CC PIR; A24857; A24857.
CC PIR; A26311; A26311.
CC HSSP; P01139; 1BET.
CC InterPro; IPR002072; NGF.
CC PRINTS; PR00268; NGF_1.
CC PRODOM; PD002052; NGF_1.
CC SMART; SM00140; NGF_1.
CC PROSITE; PS00248; NGF_1; 1.
CC PROSITE; PS50270; NGF_2; 1.
KM Growth factor; Signal.
FT SIGNAL 1 22
FT PROPEP 23 125
FT CHAIN 126 243
FT DISULFID 139 204
FT DISULFID 182 232
FT DISULFID 192 234
SO SEQUENCE 243 AA; 27138 MW; 74C306CB2079DA07 CRC64;

Query Match 60.1%; Score 392.5; DB 1; Length 243;
Best Local Similarity 62.5%; Pred. No. 1.2e-33;
Matches 70; Conservative 18; Mismatches 23; Indels 1; Gaps 1;

OY 8 HRGEYSVCDSESLWTKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEARPYKNG 67
DB 132 HRGEYSVCDSESLWTKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEARPYKNG 191
OY 68 CRGIDDKHWNQCKTSQTYRALTSENKLVGMWIRIDTSCVSLSRKIGRT 119
DB 192 CRGIDDKHWNQCKTSQTYRALTSENKLVGMWIRIDTSCVSLSRKIGRTS 242

RESULT 8
NGF_XENLA STANDARD; PRT; 231 AA.
ID NGF_XENLA
AC P21617;
DT 01-MAY-1991 (Rel. 18, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Nerve growth factor precursor (NGF).
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipridae; Pipidae;
OC Xenopodinae; Xenopus.
OC NCBI_TaxID=8355;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=91362944; PubMed=1888511;
RA Carriero F., Campioni M., Cardinali B., Pierandrei-Amaldi P.;
RT "Structure and expression of the nerve growth factor gene in Xenopus
RT oocytes and embryos.";
RL Mol. Reprod. Dev. 29:313-322(1991).
RN [2]
RP SEQUENCE OF 170-211 FROM N.A.

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RC TISSUE-Liver; PubMed-2025430;
RA MEDLINE-91222573; Ibanez C.F., Persson H.;
RT "Evolutionary abundantly expressed in Xenopus ovary.";
RL Neuron 6;845-858(1991).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: X55716; CAA39249.1; ALT_INIT.
DR PIR: S14481; S14481.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW SIGNAL
FT PROPEP 1 18
FT CHAIN 115 231
FT DISULFID 128 193
FT DISULFID 171 221
FT CARBOHYD 181 223
FT CARBOHYD 107 107
FT CARBOHYD 158 158
SQ SEQUENCE 231 AA; 26416 MW; 72A04ED00B858C5 CRC64;

Query Match 59.0%; Score 385; DB 1; Length 231;
Best Local Similarity 61.9%; Pred. No. 7e-33;
Matches 70; Conservative 18; Mismatches 23; Indels 2; Gaps 2;

OY 8 HNGEVSVCDSSELIWYDKSASDIDIRGHQVTVLGEITGNSPVKQYFETRCREARPVKNG 67
DB 121 HNGEVSVCDSVSMWGEKTKATDIDKEKVEVLGEVNNINSVFQYFETRCRDPKPVSSG 180
OY 68 CRGIDDKHNSOCKTQYVRLTSENKLVGRWIRIDTSCVSAISRKIGR 120
DB 181 CRGIDDKHNSCTTHTYFKALTMK-GKQAMRFIRIDTACVLSRK-GRT 231

RESULT 9
NGF_PIG
ID NGF_PIG STANDARD: PRT: 229 AA.
AC 029074;
DT 01-NOV-1997 (rel. 35, Created)
DT 01-NOV-1997 (rel. 35, Last sequence update)
DT 01-NOV-1997 (rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF) (Fragment).
GN NGFB.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCB1_Taxid=9823;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Large white; TISSUE=Blood;
RX MEDLINE-94313891; PubMed-8039422;
```

```
RA Labhb-Mansais Y., Mellink C., Yerie M., Gellin J.;
RT "A new marker (NGFB) on pig chromosome 4, isolated by using a
RT consensus sequence conserved among species.";
RL Cytogenet. Cell Genet. 67:120-125(1994).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: L31898; AAA21301.1; -.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW NON_TER
FT SIGNAL 1 6
FT PROPEP 7 109
FT CHAIN 110 229
FT DISULFID 124 189
FT DISULFID 167 217
FT CARBOHYD 57 219
FT CARBOHYD 102 102
FT CARBOHYD 154 154
SQ SEQUENCE 229 AA; 25275 MW; FE8890771CBA189 CRC64;

Query Match 58.6%; Score 382.5; DB 1; Length 229;
Best Local Similarity 60.7%; Pred. No. 1.3e-32;
Matches 68; Conservative 18; Mismatches 25; Indels 1; Gaps 1;

OY 8 HNGEVSVCDSSELIWYDKSASDIDIRGHQVTVLGEITGNSPVKQYFETRCREARPVKNG 67
DB 117 HNGEVSVCDSVSMWGDKTATDIDKEKVEVLGEVNNINSVFQYFETRCRDPNPVDSG 176
OY 68 CRGIDDKHNSOCKTQYVRLTSENKLVGRWIRIDTSCVSAISRKIGR 119
DB 177 CRGIDDKHNSCTTHTYFKALTMK-GKQAMRFIRIDTACVLSRKAGR 227

RESULT 10
NGF_RAT
ID NGF_RAT STANDARD: PRT: 241 AA.
AC P23427;
DT 01-MAY-1992 (rel. 22, Created)
DT 01-FEB-1996 (rel. 33, Last sequence update)
DT 01-NOV-1997 (rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCB1_Taxid=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE-89037223; PubMed-3184206;
RX Whittemore S.R., Friedman P.L., Larhammar D.G., Persson H.,
RA Gonzalez-Carvajal M., Holets V.R.;
RT "Rat beta-nerve growth factor sequence and site of synthesis in the
adult hippocampus.";
```

J. Neurosci. Res. 20:403-410(1988).

[2]

SEQUENCE OF 178-219 FROM N.A.

STRAIN-Sprague-Dawley; TISSUE-Liver;

MEDLINE-91222573; Pubmed-2025430;

Hallboeck F., Ibanez C.F., Persson H.;

"Evolutionary studies of the nerve growth factor family reveal a novel member abundantly expressed in Xenopus ovary.";

RT Neuron 6:845-858(1991).

-1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND EMBRYONIC SENSORY NEURONS.

-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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EMBL; M36589; AAA41697.1; ALT_INIT.

DR HSSP; P01139; 1BET.

DR InterPro: IPR002072; NGF.

DR Pfam: PF00243; NGF; 1.

DR PRINTS; PR00268; NGF.

DR PRODOM; PD002052; NGF; 1.

DR SMART; SM00140; NGF; 1.

DR PROSITE; PS00248; NGF_1; 1.

DR PROSITE; PS50270; NGF_2; 1.

KM Growth factor; Signal.

FT SIGNAL 1 18

FT PROPEP 19 121

FT CHAIN 122 241

FT DISULFID 136 201

FT DISULFID 179 229

FT DISULFID 189 231

FT CARBOHYD 69 69

FT CARBOHYD 114 114

FT CARBOHYD 166 166

SQ SEQUENCE 241 AA; 27009 MW; 665F42371563213D CRC64;

Query Match 58.0%; Score 378.5; DB 1; Length 241;

Best Local Similarity 59.8%; Pred. No. 3.5e-32;

Matches 67; Conservative 20; Mismatches 24; Indels 1; Gaps 1;

QY 8 HRGEYSVDESLAVTDKSSAIDIRGHQVTVLGEIKTGNSPVQYFETRCREARPVKN 67

DB 129 HMGFSSVCSVSWVGDKTATDKGKEVYVLEGVNINNSYFKYFETRCRAPNPESG 188

QY 68 CGRIDDKHNSQCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSAISRKIGRT 119

DB 189 CGRIDSKHNSYCTTHTFVKALTTD-DKQAAWFRIRIDTACVCLSRKAR 239

RESULT 11

NT4_XENLA STANDARD; PRT; 236 AA.

AC P24727;

DT 01-MAR-1992 (Rel. 21, Created)

DT 01-MAR-1992 (Rel. 21, Last sequence update)

DT 30-MAY-2000 (Rel. 39, Last annotation update)

DE Neurotrophin-4 precursor (Nt-4).

OS Xenopus laevis (African clawed frog).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipiloidea; Pipidae;

OC Xenopodinae; Xenopus.

OX NCBI_TaxID=8355;

RN [1]

SEQUENCE FROM N.A.

TISSUE-Ovary;

MEDLINE-91222573; Pubmed-2025430;

Hallboeck F., Ibanez C.F., Persson H.;

"Evolutionary studies of the nerve growth factor family reveal a novel member abundantly expressed in Xenopus ovary.";

RT Neuron 6:845-858(1991).

-1- FUNCTION: NT-4 COULD PLAY A ROLE IN OOGENESIS AND/OR EARLY EMBRYOGENESIS. NT-4 INTERACTS WITH THE LOW AFFINITY NGF RECEPTOR AND ELICITS NEURITE OUTGROWTH FROM EXPANDED DORSAL ROOT GANGLIA WITH NO LOWER ACTIVITY IN SYMPATHETIC AND NODOSE GANGLIA, RESPECTIVELY.

-1- TISSUE SPECIFICITY: OVARY.

-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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EMBL; Z30090; CAA82906.1; -.

DR PIR; JH0400; JH0400.

DR HSSP; P34130; 1B98.

DR InterPro: IPR002072; NGF.

DR Pfam: PF00243; NGF; 1.

DR PRINTS; PR00268; NGF.

DR PRODOM; PD002052; NGF; 1.

DR SMART; SM00140; NGF; 1.

DR PROSITE; PS00248; NGF_1; 1.

DR PROSITE; PS50270; NGF_2; 1.

KM Growth factor; Signal.

FT SIGNAL 1 18

FT PROPEP 19 113

FT CHAIN 114 236

FT DISULFID 131 196

FT DISULFID 174 225

FT DISULFID 184 227

FT CARBOHYD 47 47

FT CARBOHYD 106 106

SQ SEQUENCE 236 AA; 26213 MW; A210F97F2016357D CRC64;

Query Match 57.9%; Score 378; DB 1; Length 236;

Best Local Similarity 59.6%; Pred. No. 3.8e-32;

Matches 68; Conservative 16; Mismatches 30; Indels 0; Gaps 0;

QY 7 SHRGEYSVDESLAVTDKSSAIDIRGHQVTVLGEIKTGNSPVQYFETRCREARPVKN 66

DB 123 SRRELVSVCDSVNWVVDKRAVDNRKITYVMSIOTLGPVKQYFETRCNPSGSTTR 182

QY 67 GCRGIDDKHNSQCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSAISRKIGRT 120

DB 183 GCRGVDRKQWISSECKAKOSYVRALTDANKLVGWRWIRIDTACVCTLSRTGR 236

RESULT 12

NGF_HUMAN STANDARD; PRT; 241 AA.

AC P01138;

DT 21-JUL-1986 (Rel. 01, Created)

DT 01-JAN-1990 (Rel. 13, Last sequence update)

DT 16-OCT-2001 (Rel. 40, Last annotation update)

DE Beta-nerve growth factor precursor (Beta-NGF).

OS Homo sapiens (Human).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.

OX NCBI_TaxID=9606;

RN [1]

SEQUENCE FROM N.A.

RP MEDLINE-83244969; Pubmed-6688123;

RA Ullrich A., Gray A., Berman C., Dull T.J.;

RT "Human beta-nerve growth factor gene sequence highly homologous to
RT that of mouse.";
RL Nature 303:821-825(1983).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=84206565; PubMed=6327169;
RA Ullrich A., Gray A., Berman C., Coussens L., Dull T.J.;
RT "Sequence homology of human and mouse beta-NGF subunit genes.";
RL Cold Spring Harb. Symp. Quant. Biol. 48:435-442(1983).
RN [3]
RP SEQUENCE FROM N.A.
RX TISSUE=Brain;
MEDLINE=90326556; PubMed=2374737;
RA Borsani G., Pizzuti A., Ruggeri E.I., Falini A., Silani V.,
RA Siodoli A., Scariato G., Baralle F.E.;
RT "cDNA sequence of human beta-NGF.";
RL Nucleic Acids Res. 18:4020-4020(1990).
RN [4]
RP SEQUENCE OF 178-219 FROM N.A.
RC TISSUE=Leukocyte;
RX MEDLINE=91222573; PubMed=2025430;
RA Hallboeck F., Ihanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: V01511; CAA24755.1; -
DR EMBL: M21062; AAN59931.1; -
DR EMBL: X52599; CAA36832.1; -
DR PIR: A01399; NGHOBM.
DR PIR: S10253; S10253.
DR HSSP: P01139; 1BET.
DR GeneW: HGNC:7808; NGFB.
DR MIM: 162030; -
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
FT SIGNAL 1 18
FT PROPEP 19 121
FT CHAIN 122 241
FT DISULFID 136 201
FT DISULFID 179 229
FT DISULFID 189 231
FT CAROXYD 69 69
FT CAROXYD 114 114
FT SEQUENCE 241 AA; 26987 MW; CFIADADCB6736B0F CRC64;
SO
Query Match 57.2%; Score 373.5; DB 1; Length 241;
Best Local Similarity 59.8%; Pred. No. 1.1e-31;
Matches 67; Conservative 18; Mismatches 26; Indels 1; Gaps 1;
QY 8 HNGEVSVCDSLEWYDKSSAIDIGHQVYLGELTKGSPVYKQYFYEYRCKEARPVKNG 67
DB 129 HNGEVSVCDSVSWVGDKTTATDINKGEVVLGEVNIINSVERKQYFYEYRCKDPEVDSG 188

QY 68 CNGIDKHMNSCKTSQTVYRALTESENKLVGMRIIDTSCVLSRKIGR 119
DB 189 CNGIDSKHMNSCYCTTHFEVKALTFMD-GKQAAWRFIRIDTACVLSKRAVR 239
RESULT 13
ID NGF_BOVIN STANDARD; PRT; 231 AA.
AC P13600; 018969;
DT 01-JAN-1990 (Rel. 13, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update).
DE Beta-nerve growth factor precursor (Beta-NGF) (Fragment).
GN NGFB.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Blood;
RX MEDLINE=97430845; PubMed=9284944;
RA Elduque C., Laurent P., Hayes H., Rodellar C., Lavezzi H.,
RA Zaragoza P.;
RT "Assignment of the beta-nerve growth factor (NGFB) to bovine
RT chromosome 3 band q23 by in situ hybridization.";
RL Cytogenet. Cell Genet. 77:306-307(1997).
RN [2]
RP SEQUENCE OF 107-231 FROM N.A.
RX MEDLINE=86300647; PubMed=2427334;
RA Meier R., Becker-Andre M., Gotz R., Heumann R., Shaw A., Theonen H.;
RT "Molecular cloning of bovine and chick nerve growth factor (NGF):
RT delineation of conserved and unconserved domains and their
RT relationship to the biological activity and antigenicity of NGF.";
RL EMBL J. 5:11489-1493(1986).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: Y09566; CAA70759.1; -
DR EMBL: M26809; AAN30666.1; -
DR PIR: A26312; A26312.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
FT SIGNAL 1 8
FT PROPEP <1 8
FT CHAIN 9 111
FT DISULFID 112 231
FT DISULFID 126 191
FT DISULFID 169 219
FT DISULFID 179 221
FT CAROXYD 156 156
FT CAROXYD 118 118
FT CONFLICT 161 161
FT
POTENTIAL.
BY SIMILARITY.
BETA-NERVE GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
N-LINKED (GLCNAC. . .) (POTENTIAL).
L -> F (IN REF. 2).
R -> K (IN REF. 2).


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FT CONFLICT 230 231 AP -> RA (IN REF. 2).
SQ SEQUENCE 231 AA: 25437 MM: 01605092921A418C CRC64:

Query Match 57.0%; Score 372.5; DB 1; Length 231;
Best Local Similarity 50.9%; Pred. No. 1.4e-31;
Matches 66; Conservative 20; Mismatches 25; Indels 1; Gaps 1;

Oy 8 HRGEYSVCDSESLAWYTDKSSAIDIRGHQVYLGELIKTGNSPKQYFETCKEARPVNG 67
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 119 HRGEYSVCDSSVWVGDKTTATDIDKGEVWVLGEVNNINSFROYFFETCKCDPSPVDSG 178
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Oy 68 CRGIDDKHMNSQCKTSQTYVRLTSENKLVGMWIRIDTSCVLSKRIGR 119
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 179 CRGIDAKHMNSYCTTHTFEVKALTFMD-GKQAMREIRIDTACVCLSKRTGQ 229

RESULT 14
NGF_CAVPO STANDARD: PRT; 241 AA.
ID NGF_CAVPO
AC P19093;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriognathii; Cavidae; Cavia.
OX NCBI_TaxID=101141;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Prostate;
RA MEDLINE=89177243; PubMed=2926397;
RX Schwartz M.A., Fisher D., Bradshaw R.A., Isaacson P.J.;
RT "Isolation and sequence of a cDNA clone of beta-nerve growth factor
RT from the guinea pig prostate gland."
RL J. Neurochem. 52:1203-1209(1989).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
DR PIR: J10097; J10097.
DR HSSP: P01139; 1BET.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1
FT PROPEP 19 121
FT CHAIN 122 241
FT DISULFID 136 201
FT DISULFID 179 229
FT DISULFID 189 231
FT CARBOHYD 69 231
FT CARBOHYD 114 114
SQ SEQUENCE 241 AA; 26821 MM; 2F4E26B197804BF4 CRC64;

Query Match 56.9%; Score 371.5; DB 1; Length 241;
Best Local Similarity 50.0%; Pred. No. 1.9e-31;
Matches 65; Conservative 20; Mismatches 26; Indels 1; Gaps 1;
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Db 189 CRGIDSKHMNSYCTTHTFEVKALTTA-NKQAMREIRIDTACVCLNRKAR 239

RESULT 15
NGF_PRANA STANDARD: PRT; 241 AA.
ID NGF_PRANA
AC P20675;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Beta-nerve growth factor precursor (Beta-NGF).
GN NGFB.
OS Pteromys natalensis (African soft-furred rat) (Mastomys natalensis).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
OC Mastomys.
OX NCBI_TaxID=10112;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=89172070; PubMed=3234767;
RA Fahnestock M., Bell R.A.;
RT "Molecular cloning of a cDNA encoding the nerve growth factor
RT precursor from Mastomys natalensis."
RL Gene 69:257-264(1988).
CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
CC EMBRYONIC SENSORY NEURONS.
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC or send an email to license@isb-sib.ch).
-----
DR EMBL: M22748; AAA40599.1; ALT_INIT.
DR PIR: J10343; NGRTBA.
DR HSSP: P01139; 1BNG.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR PRODOM: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1
FT PROPEP 19 121
FT CHAIN 122 241
FT DISULFID 136 201
FT DISULFID 179 229
FT DISULFID 189 231
FT CARBOHYD 69 231
FT CARBOHYD 114 114
FT CARBOHYD 166 166
SQ SEQUENCE 241 AA; 27035 MM; 8BFBA207A1FEB2F7 CRC64;

Query Match 56.7%; Score 370; DB 1; Length 241;
Best Local Similarity 54.0%; Pred. No. 2.7e-31;
Matches 67; Conservative 24; Mismatches 23; Indels 10; Gaps 2;
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OY 116 KIGR 119
| |
Db 236 KAPR 239

Search completed: December 2, 2002, 15:12:44
Job time : 5.9238 secs

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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 : Search time 18.5698 Seconds

(Without alignments)
1331.501 Million cell updates/sec

Title: US-10-072-681-5

Perfect score: 653

Sequence: 1 PVAHKSHPREYSCVCSL.....RMIRIDSCVSLSRIGRT 120

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

1: SPREMBL.21:*
2: sp_archaea:*
3: sp_bacteria:*
4: sp_fungi:*
5: sp_human:*
6: sp_invertebrate:*
7: sp_mammal:*
8: sp_mhc:*
9: sp_organelle:*
10: sp_phage:*
11: sp_plant:*
12: sp_rodent:*
13: sp_virus:*
14: sp_vertebrate:*
15: sp_unclassified:*
16: sp_rvivirus:*
17: sp_bacteriophage:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	583	89.3	241	6	Q9N182 macaca fusc
2	373.5	57.2	241	6	Q9P208 macaca fusc
3	373.5	57.2	241	4	Q9UKT8 mus musculu
4	373.5	57.2	241	6	Q9N2R1 mus musculu
5	373.5	57.2	241	6	Q9N2F0 mus musculu
6	373.5	57.2	241	6	Q9N2B9 mus musculu
7	370.5	56.7	241	4	Q9P6P0 mus musculu
8	356	54.5	177	13	Q91812 poephila gu
9	355	54.4	246	13	Q9G766 japonica gu
10	354	54.2	153	11	Q9CY13 mus musculu
11	354	54.2	241	13	Q9UW38 mus musculu
12	354	54.2	247	6	Q97759 allurus ful
13	354	53.9	249	11	Q8VH14 mus musculu
14	352	53.9	246	13	Q8G74 cyclophlops
15	351	53.8	246	13	Q8G75 phrynoceph
16	350	53.6	241	13	Q9DE29 crotaurus du

17	344	52.7	270	13	Q9YH42	Q9YH42 brachydanio
18	341.5	52.3	217	6	Q9N183	Q9N183 macaca fusc
19	336.5	51.5	294	11	Q91XB4	Q91XB4 mus musculu
20	334	51.1	247	13	Q9G577	Q9G577 tylosurus
21	324.5	49.7	324	13	Q9YX95	Q9YX95 lampetra fl
22	324	49.6	101	6	Q9YX95	Q9YX95 lampetra fl
23	276	42.3	87	4	Q9P224	Q9P224 macaca fusc
24	274.5	42.0	87	6	Q9YX95	Q9YX95 lampetra fl
25	266	40.7	286	13	Q91988	Q91988 xiphophorus
26	247	37.8	85	6	Q91114	Q91114 isodon mac
27	247	37.8	85	6	Q91114	Q91114 isodon mac
28	247	37.8	85	6	Q92795	Q92795 ornithorhyn
29	247	37.8	85	6	Q92798	Q92798 petaurus br
30	247	37.8	85	6	Q913104	Q913104 cercartetus
31	247	37.8	85	6	Q92790	Q92790 macropus fu
32	247	37.8	85	6	Q913105	Q913105 dasypus
33	247	37.8	85	6	Q92801	Q92801 tachylosus
34	246	37.7	85	6	Q92803	Q92803 trichosurus
35	242	37.1	85	6	Q92792	Q92792 notoryctes
36	226.5	34.7	186	12	Q935D9	Q935D9 fowipox vir
37	210	32.2	43	13	Q913117	Q913117 protopteris
38	169	25.9	185	6	Q9BFR7	Q9BFR7 erinaceus c
39	166	25.4	185	11	Q99NV9	Q99NV9 pedetes cap
40	165	25.3	184	6	Q9BFR5	Q9BFR5 tupia mmo
41	165	25.3	185	6	Q9BFR6	Q9BFR6 talpa alai
42	165	25.3	185	6	Q9BFR5	Q9BFR5 condylura c
43	165	25.3	186	6	Q9BFL2	Q9BFL2 cholepus h
44	165	25.3	186	6	Q9BFL2	Q9BFL2 cholepus h
45	165	25.3	186	6	Q9BFR9	Q9BFR9 tamandua te

ALIGNMENTS

RESULT 1

Q9N182	PRELIMINARY:	PRT:	241 AA.
AD	Q9N182:		
IC	Q9N182:		
DR	01-OCR-2000 (TREMBLrel. 15, Created)		
DT	01-OCR-2000 (TREMBLrel. 15, Last sequence update)		
DT	01-DEC-2001 (TREMBLrel. 19, Last annotation update)		
DE	Neurotrophin-3 (Fragment).		
OS	Macaca fuscata (Japanese macaque).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;		
OC	Cercopithecoidea; Macaca.		
OX	NCBI_TaxID=9542;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RC	TISSUE=Blood;		
RC	MEDLINE=99270338; PubMed=10340513;		
RX	Okuno H., Tokuyama W., Li Y.X., Hashimoto T., Miyashita Y.;		
RA	"Quantitative evaluation of neurotrophin and trk mRNA expression in		
RT	visual and limbic areas along the occipito-temporo-hippocampal pathway		
RT	in adult macaque monkeys."		
RT	J. Comp. Neurol. 408:378-398(1999).		
RL	[2]		
RN	SEQUENCE FROM N.A.		
RP	TISSUE=Blood;		
RC	Hashimoto T., Okuno H., Tokuyama W., Li Y.X., Miyashita Y.;		
RA	"Expression of brain-derived neurotrophic factor, neurotrophin-3 and		
RT	their receptor messenger RNAs in monkey rhinal cortex."		
RT	Neuroscience 0:0-0(2000).		
RL	EMBL: AF222683; AAF33791.1; -		
DR	HSSP: P20783; 188K.		
DR	InterPro: IPR002072; NGF.		
DR	Pfam: PF00243; NGF; 1.		
DR	PRINTS: PR00268; NGF.		
DR	PRODOM: PD002052; NGF; 1.		
DR	SMART: SM00140; NGF; 1.		
DR	PROSITE: PS00248; NGF_1; 1.		
DR	PROSITE: PS50270; NGF_2; 1.		
FT	NON_TER	1	1

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FT NON_TER 241 241
SQ SEQUENCE 241 AA; 27803 MW; AB95E457C7B07113 CRC64;

Query Match
Best Local Similarity 100.0%; Score 583; DB 6; Length 241;
Matches 106; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 YAEHSHRGESVCDSESLAWYDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
D 136 YAEHSHRGESVCDSESLAWYDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 195
OY 62 RPKVKGCGIDDKHNSCKTSQTYVRLTSENKLVGMRWIRIDT 107
D 196 RPKVKGCGIDDKHNSCKTSQTYVRLTSENKLVGMRWIRIDT 241

RESULT 2
O9P208 PRELIMINARY; PRT; 241 AA.
AC O9P208;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE Beta-nerve growth factor (Fragment).
GN BETA-NGF.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RA SEQUENCE FROM N.A.
RP Kitano T., Kobayakawa H., Saitou N.;
RT "Silver Project.";
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB037517; BAA90437.1; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
FT NON_TER 241
SQ SEQUENCE 241 AA; 26998 MW; D5531ED825D96C14 CRC64;

Query Match
Best Local Similarity 57.2%; Score 373.5; DB 4; Length 241;
Matches 67; Conservative 18; Mismatches 26; Indels 1; Gaps 1;

OY 8 HRGEYSVCDSESLAWYDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEARPVKNG 67
D 129 HRGEYSVCDSESLAWYDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEARPVKNG 188
OY 68 CRGIDDKHNSCKTSQTYVRLTSENKLVGMRWIRIDTSCVSALSRRKGR 119
D 189 CRGIDDKHNSCKTSQTYVRLTSENKLVGMRWIRIDTSCVSALSRRKGR 239

RESULT 3
O9UKL8 PRELIMINARY; PRT; 241 AA.
AC O9UKL8;
DT 01-MAY-2000 (TREMBLrel. 13, Created)
DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)
DT 01-MAR-2002 (TREMBLrel. 20, Last annotation update)
DE Nerve growth factor B.
GN NGFB.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
```

```
RP SEQUENCE FROM N.A.
RX MEDLINE=99256269; PubMed=10322959;
RA Tong Y., Wang H., Chen W.;
RT "Cloning and sequencing of the gene for premature beta nerve growth
factor.";
RL Chung Kuo Ying Yung Sheng Li Hsueh Tsa Chih 13:316-318(1997).
RN [2]
RP SEQUENCE FROM N.A.
RA Tong Y., Wang H.;
RL Submitted (May-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF150960; AAD55975.1; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF; 1.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
SQ SEQUENCE 241 AA; 26959 MW; 619DFC65EB3BD671 CRC64;

Query Match
Best Local Similarity 57.2%; Score 373.5; DB 4; Length 241;
Matches 67; Conservative 18; Mismatches 26; Indels 1; Gaps 1;

OY 8 HRGEYSVCDSESLAWYDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEARPVKNG 67
D 129 HRGEYSVCDSESLAWYDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEARPVKNG 188
OY 68 CRGIDDKHNSCKTSQTYVRLTSENKLVGMRWIRIDTSCVSALSRRKGR 119
D 189 CRGIDDKHNSCKTSQTYVRLTSENKLVGMRWIRIDTSCVSALSRRKGR 239

RESULT 4
O9N2F1 PRELIMINARY; PRT; 241 AA.
AC O9N2F1;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE Beta-nerve growth factor (Fragment).
GN BETA-NGF.
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Pan.
OX NCBI_TaxID=9598;
RN [1]
RA SEQUENCE FROM N.A.
RP STRAIN=CHIMP-220;
RC Kitano T., Kobayakawa H., Saitou N.;
RT "Silver Project.";
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB037518; BAA90438.1; -.
DR HSSP; P01139; 1BET.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
FT NON_TER 241
SQ SEQUENCE 241 AA; 26868 MW; B39FRA8912C00A0B CRC64;

Query Match
Best Local Similarity 57.2%; Score 373.5; DB 6; Length 241;
Matches 67; Conservative 18; Mismatches 26; Indels 1; Gaps 1;

OY 8 HRGEYSVCDSESLAWYDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEARPVKNG 67
D 129 HRGEYSVCDSESLAWYDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEARPVKNG 188
```


RX	MEDLINE=20193595; PubMed=10727739;
RA	Johnson F., Norstrom E., Soderstrom K.:
RT	"Increased expression of endogenous biotin, but not BDNF, in
RL	telencephalic song regions during zebra finch vocal learning."
DR	Brain Res. Dev. Brain Res. 120:113-123(2000).
DR	EMBL; AF255389; AAF78050.2; "
DR	HSSP; P23560; 1B8M.
DR	InterPro: IPR002072; NGF.
DR	Pfam; PF00243; NGF; 1.
DR	PRINTS; PR00268; NGF.
DR	ProDom; PD002052; NGF; 1.
DR	SMART; SM00140; NGF; 1.
DR	PROSITE; PS00248; NGF_1; 1.
DR	PROSITE; PS02070; NGF_2; 1.
FT	NON_TER 1
SO	SEQUENCE 177 AA; 20273 MW; BDB9031515BD369D CRC64;
Query Match	54.5%; Score 356; DB 13; Length 177;
Best Local Similarity	58.3%; Pred. No. 2,5e-32;
Matches	67; Conservative 16; Mismatches 30; Indels 2; Gaps 1
OY	7 SHRGESVCDSESLWYT--DKSSAIDIRGHQVTVLGEIKTGNSPVKQYEFETRCKEARPV 64
Db	63 ARGSELVCDSTSEMTAAEKKTAVDMSAGATVLEKVPVGPKGLQKYEFETRCNPKGYT 122
OY	65 KGCGCIDDKHNNISCKTSQTIVRALTSNNKLVCGRWTIRIDTSCVSALSRIKGR 119
Db	123 KEGCGRIDKRHNNSOCRTQSYVRALTMNDKNRKGWRIFRIDTSCVCTLTIKRGR 177
RESULT 9	
ID	080G76 PRELIMINARY; PRT; 246 AA.
AC	080G76;
DT	01-JUN-2002 (TREMBLrel. 21, Created)
DI	01-JUN-2002 (TREMBLrel. 21, last sequence update)
DT	01-JUN-2002 (TREMBLrel. 21, last annotation update)
DE	Brain derived neurotrophic factor.
GN	BDNF.
OS	Japalura splendida.
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC	Lepidodonta; Squamata; Iguania; Acrodontia; Agamidæ; Draconinae;
OC	Japalura.
OX	NCBI_TaxID=118209;
RN	[1]
RP	SEQUENCE FROM N.A.
RA	Cao M., Yang Y.H., Zhang Y.Z.;
RT	"Molecular cloning of brain derived neurotrophic factor gene from
RT	amphibians and reptiles and its application in the research of
RT	phylogeny and taxonomy.";
RL	Submitted (Apr-2002) to the EMBL/GenBank/DBJ databases.
DR	EMBL; AF497713; NAM18714.1; "
FT	CHAIN 128 246
FT	BRAIN DERIVED NEUROTROPHIC FACTOR
FT	PRECUSOR.
SQ	SEQUENCE 246 AA; 27883 MW; 47BA103DA838FD78 CRC64;
Query Match	54.4%; Score 355; DB 13; Length 246;
Best Local Similarity	57.4%; Pred. No. 4,9e-32;
Matches	66; Conservative 18; Mismatches 29; Indels 2; Gaps 1
OY	7 SHRGESVCDSESLWYT--DKSSAIDIRGHQVTVLGEIKTGNSPVKQYEFETRCKEARPV 64
Db	132 ARGSELVCDSTSEMTAAEKKTAVDMSAGATVLEKVPVGPKQLQKYEFETRCNSKGYT 191
OY	65 KGCGCIDDKHNNISCKTSQTIVRALTSNNKLVCGRWTIRIDTSCVSALSRIKGR 119
Db	192 KEGCGRIDKRHNNSOCRTQSYVRALTMNDKNRKGWRIFRIDTSCVCTLTIKRGR 246
RESULT 10	
ID	09CYL3 PRELIMINARY; PRT; 153 AA.
AC	09CYL3;

DT 01-JUN-2001 (TREMBLrel. 17, Created)
 DT 01-JUN-2001 (TREMBLrel. 17, Last sequence update)
 DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
 DE Brain derived neurotrophic factor.
 GN BDNF.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RN SEQUENCE FROM N.A.
 RC SFRAIN-C57BL/6J; TISSUE=EMBRYO;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai J., Shihagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
 RA Aizawa K., Itawa M., Nishi K., Kiyosawa H., Kondo S., Yamanka I.,
 RA Saito T., Okazaki Y., Gojodori T., Bono H., Kasukawa T., Saito R.,
 RA Kadota K., Matsuda H.A., Ashburner M., Batilov S., Casavant T.,
 RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
 RA Knehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
 RA Schirral L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
 RA Blake J., Botfield D., Bojunga N., Carninci P., de Bonaldo M.,
 RA Brownstein M.J., Bult C., Fleischer C., Fujita M., Gariboldi M.,
 RA Guetlich S., Hill D., Hofmann M., Hume D.A., Kamuya M., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
 RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
 RA Sasaki H., Sato K., Schoenbach C., Seta T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyko-Oka K., Wang K.H., Weitz C., Whitlaker C., Wilmink L.,
 RA Hayashizaki Y., Yoshida K., Hasegawa Y., Kawai H., Kohlsuki S.,
 RA "Functional annotation of a full-length mouse cDNA collection";
 RL Nature 409:685-690(2001).
 DR EMBL; AK017559; BAB30805.1; -.
 DR HSSP; P23560; 1BBM.
 DR MGD; MGI:88145; Bdnf.
 DR InterPro; IPR002072; NGF.
 DR Pfam; PF00243; NGF_1.
 DR PRINTS; PRK0268; NGF.
 DR ProDom; PD002052; NGF_1.
 DR SMART; SM00140; NGF_1.
 DR PROSITE; PS00248; NGF_1.
 DR PROSITE; PS50270; NGF_2_1.
 DR SEQUENCE 153 AA; 17519 MW; CABEB8944CE5B37 CRC64;
 QY Query Match 54.2%; Score 354; DB 11; Length 153;
 Best Local Similarity 57.4%; Pred. No. 3.5e-32;
 Matches 66; Conservative 17; Mismatches 30; Indels 2; Gaps 1
 QY 7 SHRGYSVCDSSLWLT--DKSSAIDIRHOUTVGEIKTNSPVKYQYETPECKRAPP 64
 : ||| ||||| ||| | : : : : ||||| : : ||||| : |
 Db 39 ARGGEISVCDSSISEWVTADKRTAVDMSGVTVEKVPVSGQLQYETIKCNMGRT 98
 : ||| ||||| ||||| : : : : ||||| : : ||||| : |
 QY 65 KRGCGIDDKHNSOCTQTYVFRALTSNNKLVGWRWIRIDTSCVSLSRKRG 119
 : ||||| : ||||| : : : : ||||| : : ||||| : |
 Db 99 KEGCGIDKRHNNSOCTQTYVFRALTMSSKRIRGIRFIRIDSCVCLTIKNGR 153
 : ||||| : ||||| : : : : ||||| : : ||||| : |
 RESULT 11
 ID 090W38 PRELIMINARY; PRT: 241 AA.
 AC 090W38;
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
 DT 01-MAR-2002 (TREMBLrel. 20, Last annotation update)
 DE Putative neurotrophic growth factor.
 GN NGF.
 OS Botriops jararacussu (Jararacussu).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidae;
 CC Viperidae; Crotalinae; Bothrops.
 OX NCBI_TaxID=8726;
 RN [1]

```

RP SEQUENCE FROM N.A.
RC TISSUE-VENOM GLAND;
RA Kashima S., Pereira J.O., Astolfi Filho S., Soares A.M.,
RA Cindra A.C.O., Giglio J.R., Franca S.C.;
RT "Molecular cloning and cDNA sequence of a nerve growth factor
RT precursor from Bothrops jararacussu venomous gland.";
RL Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL: AF007318; AML12169.1; -.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR ProDom: PD002052; NGF; 1.
DR PROSITE: PS00248; NGF_1; UNKNOWN_1.
DR PROSITE: PS50270; NGF_2; 1.
SQ SEQUENCE 241 AA; 27161 MW; AC57F724A6531A8F CRC64;

Query Match 54.2%; Score 354; DB 13; Length 241;
Best Local Similarity 55.3%; Pred. No. 6.2e-32;
Matches 63; Conservative 22; Mismatches 27; Indels 2; Gaps 2;

OY 4 EHKSH-NGEYSCDSESLMWT--DKSSAIDIRGHQVTLGELIKTNSPVKQYFETRCKEAR 62
DB 124 DHPVHNGETSVCDISSEWVPAADKKTAVDMGCGTIVLEKVPVSKGOLKQYFETKCPMPCYT 183
OY 63 PVKNGCGIDDKHMNSOCKTSQTYVRALTSENKLVGMWRIRIDTSCVSLSRK 116
DB 184 PVPKCGIDDKHMNSOCKTSQTYVRALTSENKLVGMWRIRIDTSCVSLSRK 236

RESULT 12
O97759 PRELIMINARY; PRT; 247 AA.
ID 097759;
AC 097759;
DT 01-MAY-1999 (TrEMBLrel. 10, Created)
DT 01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT 01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE Brain derived neurotrophic factor.
GN BDNF.
OS Allurus fulgens (Lesser panda).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Procyonidae; Allurus.
OX NCBI_TaxID=9649;
RN [1]
RP SEQUENCE FROM N.A.
RA Peng L.;
RT "Giant Panda (GP) and Lesser Panda (LP) BDNF gene sequences and their
RT deduced amino acid sequences.";
RL Submitted (APR-1996) to the EMBL/GenBank/DBJ databases.
DR EMBL: U56639; AAD10843.1; -.
DR HSSP: P23560; 1B8M.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
SQ SEQUENCE 247 AA; 27870 MW; FE8C62CF1A6C03EE CRC64;

Query Match 54.2%; Score 354; DB 6; Length 247;
Best Local Similarity 57.4%; Pred. No. 6.4e-32;
Matches 66; Conservative 17; Mismatches 30; Indels 2; Gaps 1;

OY 7 SHREYSVCDSLSMWT--DKSSAIDIRGHQVTLGELIKTNSPVKQYFETRCKEARPV 64
DB 133 ARRGELSYCDISSEWVPAADKKTAVDMGCGTIVLEKVPVSKGOLKQYFETKCPMPCYT 192
OY 65 KNGCGIDDKHMNSOCKTSQTYVRALTSENKLVGMWRIRIDTSCVSLSRK 119
DB 193 KEGCGIDDKHMNSOCKTSQTYVRALTSENKLVGMWRIRIDTSCVSLSRK 247

RESULT 13
O8VHH4 PRELIMINARY; PRT; 249 AA.
ID 08VHH4;
AC 08VHH4;
DT 01-MAR-2002 (TrEMBLrel. 20, Created)
DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT 01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
DE Anorexia BDNF.
OS Mus musculus (mouse).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RA SPRAIN-BEC3FE-A/A-ANXA/+A;
RA Kim S.J., Kim C.S., Cha Y.J., Song K.Y., Yeo M.G.;
RT "Anorexia mouse ORF BDNF.";
RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL: AF459642; AAL58475.1; -.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; UNKNOWN_1.
DR PROSITE: PS50270; NGF_2; 1.
SQ SEQUENCE 249 AA; 28109 MW; 21CEAE60A235D97 CRC64;

Query Match 54.2%; Score 354; DB 11; Length 249;
Best Local Similarity 57.4%; Pred. No. 6.3e-32;
Matches 66; Conservative 17; Mismatches 30; Indels 2; Gaps 1;

OY 7 SHREYSVCDSLSMWT--DKSSAIDIRGHQVTLGELIKTNSPVKQYFETRCKEARPV 64
DB 135 ARRGELSYCDISSEWVPAADKKTAVDMGCGTIVLEKVPVSKGOLKQYFETKCPMPCYT 194
OY 65 KNGCGIDDKHMNSOCKTSQTYVRALTSENKLVGMWRIRIDTSCVSLSRK 119
DB 195 KEGCGIDDKHMNSOCKTSQTYVRALTSENKLVGMWRIRIDTSCVSLSRK 249

RESULT 14
O8OG74 PRELIMINARY; PRT; 246 AA.
ID 08OG74;
AC 08OG74;
DT 01-JUN-2002 (TrEMBLrel. 21, Created)
DT 01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
DT 01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
DE Brain derived neurotrophic factor.
GN BDNF.
OS Cyclophiops major.
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidae;
OC Colubridae; Colubrinae; Cyclophiops.
OX NCBI_TaxID=192173;
RN [1]
RP SEQUENCE FROM N.A.
RA Cao M., Yang Y.H., Zhang Y.Z.;
RT "Molecular cloning of brain derived neurotrophic factor gene from
RT amphibians and reptiles and its application in the research of
RT phylogeny and taxonomy.";
RL Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL: AF497715; AAM18716.1; -.
FT CHAIN 128 246 BRAIN DERIVED NEUROTROPHIC FACTOR
FT PRECURSOR.
SQ SEQUENCE 246 AA; 27773 MW; BA01780349F37856 CRC64;

Query Match 53.9%; Score 352; DB 13; Length 246;
Best Local Similarity 57.4%; Pred. No. 1.1e-31;
Matches 66; Conservative 18; Mismatches 29; Indels 2; Gaps 1;

OY 7 SHREYSVCDSLSMWT--DKSSAIDIRGHQVTLGELIKTNSPVKQYFETRCKEARPV 64
DB 132 ARRGELSYCDISSEWVPAADKKTAVDMGCGTIVLEKVPVSKGOLKQYFETKCKGVA 191

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GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 : Search time 8.30012 Seconds
(without alignments)
425.386 Million cell updates/sec

Title: US-10-072-681-5
Perfect score: 653
Sequence: 1 PVAEHSKSHRGESVCSDESLS.....RWIRIDTSCVSAISRKIGRT 120

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :

Issued_Patents_AA:*
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2: /cgn2_6/prodata/1/1aa/5B_COMB.pep:*
3: /cgn2_6/prodata/1/1aa/5A_COMB.pep:*
4: /cgn2_6/prodata/1/1aa/5B_COMB.pep:*
5: /cgn2_6/prodata/1/1aa/5A_COMB.pep:*
6: /cgn2_6/prodata/1/1aa/5B_COMB.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	653	100.0	120	4	US-09-675-503-5
2	646	98.9	119	3	US-08-970-865-5
3	646	98.9	119	3	US-08-581-662-2
4	646	98.9	119	4	US-09-363-573-5
5	646	98.9	119	4	US-09-664-295-2
6	641	98.2	119	1	US-07-979-630-3
7	641	98.2	119	1	US-08-440-049-2
8	641	98.2	119	1	US-08-340-131-3
9	641	98.2	119	2	US-08-441-513A-2
10	641	98.2	119	3	US-08-910-691-12
11	641	98.2	119	4	US-08-845-541B-2
12	641	98.2	119	4	US-09-066-065A-9
13	641	98.2	119	5	PCT-US93-11292-3
14	641	98.2	119	5	PCT-US95-06918-2
15	641	98.2	119	5	PCT-US95-06918-5
16	641	98.2	120	4	US-08-340-131-4
17	641	98.2	120	4	US-09-214-214A-1
18	641	98.2	120	4	US-09-255-953-1
19	641	98.2	120	4	US-09-872-090-1
20	641	98.2	240	3	US-08-910-691-11
21	641	98.2	257	1	US-08-451-947-4
22	641	98.2	257	1	US-08-424-826A-4
23	641	98.2	257	3	US-08-910-691-7
24	641	98.2	257	3	US-08-928-694-4
25	641	98.2	257	5	PCT-US91-06950-4
26	629	96.3	119	4	US-09-214-214A-6
27	629	96.3	119	4	US-09-255-953-6

ALIGNMENTS

28	629	96.3	119	4	US-09-872-090-6	Sequence 6, Appl1
29	629	96.3	120	4	US-09-214-214A-3	Sequence 3, Appl1
30	629	96.3	120	4	US-09-255-953-3	Sequence 3, Appl1
31	629	96.3	120	4	US-09-872-090-3	Sequence 3, Appl1
32	619	94.8	117	4	US-09-214-214A-7	Sequence 7, Appl1
33	619	94.8	117	4	US-09-255-953-7	Sequence 7, Appl1
34	619	94.8	117	4	US-09-872-090-7	Sequence 7, Appl1
35	619	94.8	118	4	US-09-214-214A-5	Sequence 5, Appl1
36	619	94.8	118	4	US-09-255-953-5	Sequence 5, Appl1
37	619	94.8	118	4	US-09-872-090-5	Sequence 5, Appl1
38	613	93.9	120	3	US-08-581-662-32	Sequence 32, Appl1
39	613	93.9	120	4	US-09-664-295-32	Sequence 32, Appl1
40	416.5	63.8	120	4	US-08-845-541B-9	Sequence 9, Appl1
41	416.5	63.8	120	4	US-09-066-065A-9	Sequence 9, Appl1
42	411.5	63.0	120	4	US-08-845-541B-7	Sequence 7, Appl1
43	411.5	63.0	120	4	US-09-066-065A-7	Sequence 7, Appl1
44	408.5	62.6	120	4	US-08-845-541B-8	Sequence 8, Appl1
45	408.5	62.6	120	4	US-09-066-065A-8	Sequence 8, Appl1

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RESULT 1
US-09-675-503-5
; Sequence 5, Application US/09675503
; Patent No. 6423831
; GENERAL INFORMATION:
; APPLICANT: Burton, Louis E.
; APPLICANT: Schmelzer, Charles H.
; APPLICANT: Beck, Joanne T.
; TITLE OF INVENTION: ISOLATION OF NEUTROPHILS FROM A
; TITLE OF INVENTION: MIXTURE CONTAINING OTHER PROTEINS AND NEUTROPHIL VARIANTS
; FILE REFERENCE: GEMENT.037C2
; CURRENT APPLICATION NUMBER: US/09/675,503
; CURRENT FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: 60/030838
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: 60/047855
; PRIOR FILING DATE: 1997-05-29
; PRIOR APPLICATION NUMBER: 08/970865
; PRIOR FILING DATE: 1997-11-14
; PRIOR APPLICATION NUMBER: 09/363573
; PRIOR FILING DATE: 1999-07-29
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 5
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-675-503-5

Query Match      100.0%; Score 653; DB 4; Length 120;
Best Local Similarity 100.0%; Pred. No. 3.4e-70;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 PVAEHSKSHRGESVCSDESLSMTWIDKSSAIDIRGHQVTVLGEIKTNSPVKQYFETRCKE 60
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Db 1 PVAEHSKSHRGESVCSDESLSMTWIDKSSAIDIRGHQVTVLGEIKTNSPVKQYFETRCKE 60
OY 61 ARPVKNCGRIGIDKHMNSCKTSOTYVRAITSENKRVGRWIRIDTSCVSAISRKIGRT 120
    |||||||
Db 61 ARPVKNCGRIGIDKHMNSCKTSOTYVRAITSENKRVGRWIRIDTSCVSAISRKIGRT 120

RESULT 2
US-08-970-865-5
; Sequence 5, Application US/08970865
; Patent No. 6005081
; GENERAL INFORMATION:
; APPLICANT: Louis E. Burton, Charles H. Schmelzer, Joanne T. Beck
; TITLE OF INVENTION: Purification of NGF
```

```

;
; NUMBER OF SEQUENCES: 6
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
;
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatln (Genentech)
;
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/970,865
; FILING DATE: 14-No. 6005081-1997
; CLASSIFICATION: 530
;
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 60/030838
; FILING DATE: 11/15/1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 60/047855
; FILING DATE: 5/29/1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, PhD., Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P1063R2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-8674
; TELEFAX: 650/952-9881
;
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 119 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
;
US-08-970-865-5
;
Query Match          98.9%; Score 646; DB 3; Length 119;
Best Local Similarity 100.0%; Pred. No. 2.3e-69;
Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 2 YAEHKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 YAEHKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 60
Oy 62 RPYKNCRCGIDDKHNSCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSALSRIKIRT 120
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 61 RPYKNCRCGIDDKHNSCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSALSRIKIRT 119

RESULT 3
US-08-581-662-2
; Sequence 2, Application US/08581662
; Patent No. 6121235
; GENERAL INFORMATION:
; APPLICANT: Gao, Wei-Qiang
; TITLE OF INVENTION: Treatment of Balance Impairments
; FILE REFERENCE: P0981
; CURRENT APPLICATION NUMBER: US/08/581,662
; NUMBER OF SEQ ID NOS: 36
;
; SEQ ID NO 2
; LENGTH: 119
; TYPE: PRT
; ORGANISM: Homo sapiens
;
US-08-581-662-2
;
Query Match          98.9%; Score 646; DB 3; Length 119;
Best Local Similarity 100.0%; Pred. No. 2.3e-69;
Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 2 YAEHKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

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Db 1 YAEHKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 60
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    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 61 RPYKNCRCGIDDKHNSCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSALSRIKIRT 119

RESULT 4
US-09-363-573-5
; Sequence 5, Application US/09363573
; Patent No. 6184360
; GENERAL INFORMATION:
; APPLICANT: Louis E. Burton, Charles H. Schmelzer, Joanne T. Beck
; TITLE OF INVENTION: Purification of NGF
; NUMBER OF SEQUENCES: 6
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
;
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatln (Genentech)
;
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/363,573
; FILING DATE:
; CLASSIFICATION:
;
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/08/970,865
; FILING DATE: 14-No. 6184360-1997
; APPLICATION NUMBER: 60/030838
; FILING DATE: 11/15/1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 60/047855
; FILING DATE: 5/29/1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, PhD., Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P1063R2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-8674
; TELEFAX: 650/952-9881
;
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 119 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
;
US-09-363-573-5
;
Query Match          98.9%; Score 646; DB 4; Length 119;
Best Local Similarity 100.0%; Pred. No. 2.3e-69;
Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 2 YAEHKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 YAEHKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 60
Oy 62 RPYKNCRCGIDDKHNSCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSALSRIKIRT 120
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 61 RPYKNCRCGIDDKHNSCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSALSRIKIRT 119

RESULT 5
US-09-664-295-2
; Sequence 2, Application US/09664295
; Patent No. 6429196
; GENERAL INFORMATION:
; APPLICANT: Gao, Wei-Qiang
; TITLE OF INVENTION: Treatment of Balance Impairments
;

```

FILE REFERENCE: GENEENT.051C1
CURRENT APPLICATION NUMBER: US/09/664,295
CURRENT FILING DATE: 2000-09-18
PRIOR APPLICATION NUMBER: US 08/581,662
PRIOR FILING DATE: 1995-12-29
NUMBER OF SEQ ID NOS: 37
SEQ ID NO 2
LENGTH: 119
TYPE: PRT
ORGANISM: Homo sapiens
US-09-664-295-2

Query Match 98.9%; Score 646; DB 4; Length 119;
Best Local Similarity 100.0%; Pred. No. 2,3e-69;
Matches 119; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 YAEHKSARGEYSVCDESLMTVDKSSAIDIRGHQVTLGEIKTGNSPVKQYFETRCKEA 61
DB 1 YAEHKSARGEYSVCDESLMTVDKSSAIDIRGHQVTLGEIKTGNSPVKQYFETRCKEA 60
QY 62 RPVKNGCRGIDDKHMSOCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSAISRKTGRT 120
DB 61 RPVKNGCRGIDDKHMSOCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSAISRKTGRT 119

RESULT 6

US-07-979-630-3
Sequence 3, Application US/07979630
Patent No. 5488099
GENERAL INFORMATION:
APPLICANT: Person, et al.
TITLE OF INVENTION: Multifunctional Neurotrophic Factors
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Regeneron Pharmaceuticals, Inc.
STREET: 777 Old Saw Mill River Road
CITY: Tarrytown
STATE: New York
COUNTRY: U.S.A.
ZIP: 10591
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/979,630
FILING DATE: 20-NOV-1992
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/847,369
FILING DATE: 06-MAR-1992
NAME:
ATTORNEY/AGENT INFORMATION:
NAME: Kempster Ph.D., Gail M.
REGISTRATION NUMBER: 32,143
REFERENCE/DOCKET NUMBER: REG 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: 914-347-7000
TELEFAX: 914-347-2113
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
US-07-979-630-3

Query Match 98.2%; Score 641; DB 1; Length 119;
Best Local Similarity 99.2%; Pred. No. 8,9e-69;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 YAEHKSARGEYSVCDESLMTVDKSSAIDIRGHQVTLGEIKTGNSPVKQYFETRCKEA 61
DB 1 YAEHKSARGEYSVCDESLMTVDKSSAIDIRGHQVTLGEIKTGNSPVKQYFETRCKEA 60
QY 62 RPVKNGCRGIDDKHMSOCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSAISRKTGRT 120
DB 61 RPVKNGCRGIDDKHMSOCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSAISRKTGRT 119

RESULT 7

US-08-440-049-2
Sequence 2, Application US/08440049
Patent No. 5728803
GENERAL INFORMATION:
APPLICANT: Uffet, Roman
APPLICANT: Presta, Leonard G.
APPLICANT: Winslow, John W.
TITLE OF INVENTION: PANTROPIC NEUROTROPHIC FACTORS
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/440,049
FILING DATE: 12-May-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/253937
FILING DATE: 03-JUN-1994
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0905C2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-440-049-2

Query Match 98.2%; Score 641; DB 1; Length 119;
Best Local Similarity 99.2%; Pred. No. 8,9e-69;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 YAEHKSARGEYSVCDESLMTVDKSSAIDIRGHQVTLGEIKTGNSPVKQYFETRCKEA 61
DB 1 YAEHKSARGEYSVCDESLMTVDKSSAIDIRGHQVTLGEIKTGNSPVKQYFETRCKEA 60
QY 62 RPVKNGCRGIDDKHMSOCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSAISRKTGRT 120
DB 61 RPVKNGCRGIDDKHMSOCKTSQTYVRALTSNNKLVGWRWIRIDTSCVSAISRKTGRT 119

RESULT 8

US-08-340-131-3
Sequence 3, Application US/08340131
Patent No. 5770577
GENERAL INFORMATION:
APPLICANT: Kinstler, Olaf B
APPLICANT: Yan, Qiao

```

: TITLE OF INVENTION: DERIVATIVES OF BDNF AND NT-3
: NUMBER OF SEQUENCES: 4
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Amgen Inc.
: STREET: 1840 Denavilland Drive
: CITY: Thousand Oaks
: STATE: California
: COUNTRY: USA
: ZIP: 91320-1789
: COMPUTER READABLE FORM:
: MEDIUM TYPE: Floppy disk
: OPERATING SYSTEM: IBM PC compatible
: SOFTWARE: Patent Release #1.0, Version #1.25
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/340,131
: FILING DATE:
: CLASSIFICATION: 530
: ATTORNEY/AGENT INFORMATION:
: NAME: Mazza, Richard J.
: REFERENCE/DOCKET NUMBER: A-298
: INFORMATION FOR SEQ ID NO: 3:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 119 amino acids
: TYPE: amino acid
: STRANDEDNESS: single
: TOPOLOGY: linear
: MOLECULE TYPE: protein
: US-08-340-131-3

Query Match      98.2%; Score 641; DB 1; Length 119;
Best Local Similarity 99.2%; Pred. NO. 8.9e-69;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy      2 YAEHKSRRGEYSVCDSESLWYTDKSSAIDIRGHQVTVYGEIKTGNSPVKQYFETRCKEA 61
Db      1 YAEHKSRRGEYSVCDSESLWYTDKSSAIDIRGHQVTVYGEIKTGNSPVKQYFETRCKEA 60

Qy      62 RPYKNGCGRIDDKHMNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSRIGRT 120
Db      61 RPYKNGCGRIDDKHMNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSRIGRT 119

RESULT 9
: US-08-441-513A-2
: Sequence 2, Application US/08441513A
: Patent No. 5981480
: GENERAL INFORMATION:
: APPLICANT: Uiter, Roman
: APPLICANT: Presta, Leonard G.
: APPLICANT: Winslow, John W.
: TITLE OF INVENTION: Pantropic Neurotrophic Factors
: NUMBER OF SEQUENCES: 20
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Genentech, Inc.
: STREET: 1 DNA Way
: CITY: South San Francisco
: STATE: California
: COUNTRY: USA
: ZIP: 94080
: COMPUTER READABLE FORM:
: MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
: OPERATING SYSTEM: IBM PC compatible
: SOFTWARE: Minipatin (Genentech)
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/441,513A
: FILING DATE: 15-May-1995
: CLASSIFICATION: 435
: PRIOR APPLICATION DATA:
: APPLICATION NUMBER: 08/253937
: FILING DATE: 03-JUN-1994
: ATTORNEY/AGENT INFORMATION:
```

```

: NAME: Torchia, PhD., Timothy E.
: REGISTRATION NUMBER: 36,700
: REFERENCE/DOCKET NUMBER: P0905C3
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: 650/225-8674
: TELEFAX: 650/952-9981
: INFORMATION FOR SEQ ID NO: 2:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 119 amino acids
: TYPE: Amino Acid
: TOPOLOGY: Linear
: US-08-441-513A-2

Query Match      98.2%; Score 641; DB 2; Length 119;
Best Local Similarity 99.2%; Pred. NO. 8.9e-69;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy      2 YAEHKSRRGEYSVCDSESLWYTDKSSAIDIRGHQVTVYGEIKTGNSPVKQYFETRCKEA 61
Db      1 YAEHKSRRGEYSVCDSESLWYTDKSSAIDIRGHQVTVYGEIKTGNSPVKQYFETRCKEA 60

Qy      62 RPYKNGCGRIDDKHMNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSRIGRT 120
Db      61 RPYKNGCGRIDDKHMNSCKTSQTYVRALTSNNKLVGMWRIRIDTSCVSLSRIGRT 119

RESULT 10
: US-08-910-691-12
: Sequence 12, Application US/08910691
: Patent No. 6015552
: GENERAL INFORMATION:
: APPLICANT: WATANABE, Tatsuya
: APPLICANT: YOSHITOMI, Sumie
: APPLICANT: SASADA, Reiko
: TITLE OF INVENTION: THERAPEUTIC AGENT FOR NEUTROPENIA
: NUMBER OF SEQUENCES: 12
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: DAVID G. CONLIN, DIKE, BRONSTEIN, ROBERTS &
: STREET: 130 Water Street
: CITY: Boston
: STATE: Massachusetts
: COUNTRY: US
: ZIP: 02109
: COMPUTER READABLE FORM:
: MEDIUM TYPE: Floppy disk
: OPERATING SYSTEM: IBM PC compatible
: SOFTWARE: Patent Release #1.0, Version #1.25
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/910,691
: FILING DATE:
: CLASSIFICATION:
: PRIOR APPLICATION DATA:
: APPLICATION NUMBER: US/08/074,969
: FILING DATE: 19930604
: ATTORNEY/AGENT INFORMATION:
: NAME: NEUNER, George W
: REGISTRATION NUMBER: 26964
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: (617)523-3400
: TELEFAX: (617)523-6440
: TELEX: 200291 STRE UR
: INFORMATION FOR SEQ ID NO: 12:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 119 amino acids
: TYPE: amino acid
: TOPOLOGY: linear
: MOLECULE TYPE: protein
: US-08-910-691-12

Query Match      98.2%; Score 641; DB 3; Length 119;
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Best Local Similarity 99.2%; Pred. No. 8.9e-69;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Oy 2 YAEHSHRGEYSVCDSSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
Db 1 YAEHSHRGEYSVCDSSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60
Oy 62 RPKNGCGRIDDKHWNSSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVCSALSRKIGRT 120
Db 61 RPKNGCGRIDDKHWNSSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVCSALSRKIGRT 119

RESULT 11

US-08-845-541B-2
Sequence 2, Application US/08845541B
Patent No. 633310
GENERAL INFORMATION:
APPLICANT: Presta, Leonard
APPLICANT: Urfert, Roman
APPLICANT: Winslow, John
TITLE OF INVENTION: NCF VARIANTS
FILE REFERENCE: GENENT.039A
CURRENT APPLICATION NUMBER: US/08/845, 541B
CURRENT FILING DATE: 1999-04-25
NUMBER OF SEQ ID NOS: 38
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 119
TYPE: PRT
ORGANISM: homo sapien
US-08-845-541B-2

Query Match 98.2%; Score 641; DB 4; Length 119;
Best Local Similarity 99.2%; Pred. No. 8.9e-69;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Oy 2 YAEHSHRGEYSVCDSSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
Db 1 YAEHSHRGEYSVCDSSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60
Oy 62 RPKNGCGRIDDKHWNSSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVCSALSRKIGRT 120
Db 61 RPKNGCGRIDDKHWNSSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVCSALSRKIGRT 119

RESULT 12

US-09-066-065A-2
Sequence 2, Application US/09066065A
Patent No. 6365373
GENERAL INFORMATION:
APPLICANT: Leonard G. Presta, Roman Urfert, John W. Winslow
TITLE OF INVENTION: NCF Variants
NUMBER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
ADDRESSEE: GeneTech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 MB floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winpatin (GeneTech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/066, 065A
FILING DATE: 24-Apr-1998
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/044918
FILING DATE: 25-Apr-1999
ATTORNEY/AGENT INFORMATION:

NAME: Torchia, PhD., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P1098R1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-9874
TELEFAX: 650/952-9881

SEQUENCE CHARACTERISTICS:
FOR SEQ ID NO: 2:
LENGTH: 119 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-09-066-065A-2

Query Match 98.2%; Score 641; DB 4; Length 119;
Best Local Similarity 99.2%; Pred. No. 8.9e-69;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Oy 2 YAEHSHRGEYSVCDSSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
Db 1 YAEHSHRGEYSVCDSSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60
Oy 62 RPKNGCGRIDDKHWNSSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVCSALSRKIGRT 120
Db 61 RPKNGCGRIDDKHWNSSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVCSALSRKIGRT 119

RESULT 13

PCT-US93-11292-3
Sequence 3, Application PC/TUS9311292
GENERAL INFORMATION:
APPLICANT: Persson, et al.
TITLE OF INVENTION: Multifunctional Neurotrophic Factors
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Regeneron Pharmaceuticals, Inc.
STREET: 777 Old Saw Mill River Road
CITY: Tarrytown
STATE: New York
COUNTRY: U.S.A.
ZIP: 10591
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/11292
FILING DATE: 19-NOV-1993
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/847,369
FILING DATE: 06-MAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: Kempner Ph.D., Gall M.
REGISTRATION NUMBER: 32,143
REFERENCE/DOCKET NUMBER: REG 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: 914-347-7000
TELEFAX: 914-347-2113
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
PCT-US93-11292-3

Query Match 98.2%; Score 641; DB 5; Length 119;
Best Local Similarity 99.2%; Pred. No. 8.9e-69;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Oy 2 YAEHSHRGEYSVCDSSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61

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Db 1 YAEHSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 60
OY 62 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKRIGRT 120
Db 61 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKRIGRT 119

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RESULT 14

PCT-US95-06918-2

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Sequence 2, Application PC/TUS9506918
GENERAL INFORMATION:
APPLICANT: Genentech, Inc.
TITLE OF INVENTION: PANTROPIC NEUROTROPHIC FACTORS
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/06918
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 905PCT
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
TYPE: amino acid
TOPOLOGY: linear
PCT-US95-06918-2

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Query Match 98.2%; Score 641; DB 5; Length 119;
Best Local Similarity 99.2%; Pred. No. 8.9e-69;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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OY 2 YAEHSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
Db 1 YAEHSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 60
OY 62 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKRIGRT 120
Db 61 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKRIGRT 119

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RESULT 15

PCT-US95-06918-5

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Sequence 5, Application PC/TUS9506918
GENERAL INFORMATION:
APPLICANT: Genentech, Inc.
TITLE OF INVENTION: PANTROPIC NEUROTROPHIC FACTORS
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco

```

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STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/06918
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 905PCT
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
TYPE: amino acid
TOPOLOGY: linear
PCT-US95-06918-5

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Query Match 98.2%; Score 641; DB 5; Length 119;
Best Local Similarity 99.2%; Pred. No. 8.9e-69;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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OY 2 YAEHSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
Db 1 YAEHSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 60
OY 62 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKRIGRT 120
Db 61 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKRIGRT 119

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Search completed: December 2, 2002, 15:09:44
Job time : 9.30012 secs

GenCore version 5.1.3
Copyright (c) 1993 - 2002 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: December 2, 2002, 15:08:47 : Search time 4.2204 Seconds
(without alignments)
452.778 Million cell updates/sec

Title: US-10-072-681-5

Perfect score: 653

Sequence: 1 PYAEHKSHEGVSCDSESL.....RMIRIDTSCVLSLRKIGRT 120

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 102317 seqs, 15924203 residues

Total number of hits satisfying chosen parameters: 102317

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published-Applications-AA:*

1: /cgn2_6/ptodata/1/pubppaa/US08_NEW_PUB.pep:*
2: /cgn2_6/ptodata/1/pubppaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubppaa/US06_NEW_PUB.pep:*
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8: /cgn2_6/ptodata/1/pubppaa/US08_PUBCOMB.pep:*
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13: /cgn2_6/ptodata/1/pubppaa/US60_NEW_PUB.pep:*
14: /cgn2_6/ptodata/1/pubppaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	653	100.0	120	12	US-10-072-681-5
2	641	98.2	120	10	US-09-745-032-1
3	641	98.2	120	10	US-09-742-600-1
4	641	98.2	120	10	US-09-872-090-1
5	641	98.2	257	8	US-08-450-842-4
6	629	96.3	119	10	US-09-745-032-6
7	629	96.3	119	10	US-09-742-600-7
8	629	96.3	119	10	US-09-872-090-6
9	629	96.3	120	10	US-09-745-032-3
10	629	96.3	120	10	US-09-742-600-3
11	629	96.3	120	10	US-09-872-090-3
12	619	94.8	117	10	US-09-745-032-7
13	619	94.8	117	10	US-09-742-600-7
14	619	94.8	117	10	US-09-872-090-7
15	619	94.8	118	10	US-09-745-032-5
16	619	94.8	118	10	US-09-742-600-5
17	619	94.8	118	10	US-09-872-090-5
18	609	93.3	120	9	US-09-813-398-11
19	385	59.0	71	10	US-09-848-664-23

20	373.5	57.2	153	10	US-09-798-338-2	Sequence 2, Appl1
21	373.5	57.2	157	10	US-09-798-338-4	Sequence 4, Appl1
22	373.5	57.2	163	10	US-09-798-338-6	Sequence 6, Appl1
23	373.5	57.2	167	10	US-09-798-338-8	Sequence 8, Appl1
24	373.5	57.2	241	8	US-08-450-842-5	Sequence 5, Appl1
25	373.5	57.2	241	8	US-09-822-263-16	Sequence 16, Appl1
26	373.5	57.2	242	12	US-10-072-681-1	Sequence 1, Appl1
27	371	56.8	121	12	US-10-072-681-2	Sequence 2, Appl1
28	368.5	56.4	121	12	US-10-072-681-3	Sequence 3, Appl1
29	365	55.9	121	9	US-09-813-398-9	Sequence 9, Appl1
30	359	55.0	120	10	US-09-745-032-10	Sequence 10, Appl1
31	359	55.0	120	10	US-09-742-600-10	Sequence 10, Appl1
32	354	54.2	120	10	US-09-745-032-8	Sequence 8, Appl1
33	354	54.2	120	10	US-09-745-032-9	Sequence 9, Appl1
34	354	54.2	120	10	US-09-742-600-8	Sequence 8, Appl1
35	354	54.2	120	10	US-09-742-600-9	Sequence 9, Appl1
36	354	54.2	247	8	US-08-450-842-3	Sequence 3, Appl1
37	351.5	53.8	142	8	US-08-450-842-52	Sequence 52, Appl1
38	351	53.8	130	8	US-08-450-842-23	Sequence 23, Appl1
39	350	53.6	130	8	US-08-450-842-22	Sequence 22, Appl1
40	350	53.6	131	9	US-09-813-398-12	Sequence 12, Appl1
41	350	53.6	168	8	US-08-450-842-6	Sequence 6, Appl1
42	350	53.6	210	8	US-08-450-842-2	Sequence 2, Appl1
43	349	53.4	130	8	US-08-450-842-62	Sequence 62, Appl1
44	348	53.3	130	8	US-08-450-842-64	Sequence 64, Appl1
45	348	53.3	130	12	US-10-072-681-6	Sequence 6, Appl1

ALIGNMENTS

RESULT 1
US-10-072-681-5
Sequence 5, Application US/10072681
Patent No. US20020137893A1
GENERAL INFORMATION:
APPLICANT: Burton, Louis E.
APPLICANT: Schmelzer, Charles H.
APPLICANT: Beck, Joanne T.
TITLE OF INVENTION: PURIFICATION OF NGF
FILE REFERENCE: GENENT. 037C3
CURRENT APPLICATION NUMBER: US/10/072, 681
CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: 60/030838
PRIOR FILING DATE: 1996-11-15
PRIOR APPLICATION NUMBER: 60/047855
PRIOR FILING DATE: 1997-05-29
PRIOR APPLICATION NUMBER: 08/970865
PRIOR FILING DATE: 1997-11-14
PRIOR APPLICATION NUMBER: 09/363573
PRIOR FILING DATE: 1999-07-29
PRIOR APPLICATION NUMBER: 09/675, 503
PRIOR FILING DATE: 2000-09-29
NUMBER OF SEQ ID NOS: 6
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 5
LENGTH: 120
TYPE: PRT
ORGANISM: Homo sapien
US-10-072-681-5

Query Match 100.0%: Score 653; DB 12; Length 120;
Best Local Similarity 100.0%: Pred. No. 6, 2e-65;
Matches 120; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 PYAEHKSHEGVSCDSESLMTWTDKSSAIDIRGHQVVLGEIKTGNPVRQYFETCKE 60
DB 1 PYAEHKSHEGVSCDSESLMTWTDKSSAIDIRGHQVVLGEIKTGNPVRQYFETCKE 60
OY 61 ARPVKNCRCGIDKHMNSCKTSQTVYRALTSNNKLVGMIRIDTSCVLSLRKIGRT 120
DB 61 ARPVKNCRCGIDKHMNSCKTSQTVYRALTSNNKLVGMIRIDTSCVLSLRKIGRT 120

RESULT 2
US-09-745-032-1
; Sequence 1, Application US/09745032
; Patent No. US2001002719A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hersenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/745,032
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-745-032-1

Query Match 98.2%; Score 641; DB 10; Length 120;
Best Local Similarity 99.2%; Pred. No. 1.3e-63;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 2 YAEHSHRGEYSVCSESLMTVDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
DB 2 YAEHSHRGEYSVCSESLMTVDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
QY 62 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 120
DB 62 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 120

RESULT 3
US-09-742-600-1
; Sequence 1, Application US/09742600
; Patent No. US20020010135A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hersenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/742,600
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-742-600-1

Query Match 98.2%; Score 641; DB 10; Length 120;
Best Local Similarity 99.2%; Pred. No. 1.3e-63;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 2 YAEHSHRGEYSVCSESLMTVDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
DB 2 YAEHSHRGEYSVCSESLMTVDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
QY 62 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 120

DB 62 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 120
RESULT 4
US-09-872-090-1
; Sequence 1, Application US/09872090
; Patent No. US20020052488A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen Ngol Yin
; APPLICANT: Hersenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: Analogs of NF-3 (As Amended)
; FILE REFERENCE: A-411B
; CURRENT APPLICATION NUMBER: US/09/872,090
; CURRENT FILING DATE: 2001-06-01
; PRIOR APPLICATION NUMBER: 09/255,953
; PRIOR FILING DATE: 1999-02-23
; PRIOR APPLICATION NUMBER: 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-872-090-1

Query Match 98.2%; Score 641; DB 10; Length 120;
Best Local Similarity 99.2%; Pred. No. 1.3e-63;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 2 YAEHSHRGEYSVCSESLMTVDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
DB 2 YAEHSHRGEYSVCSESLMTVDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
QY 62 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 120
DB 62 RPYKNGCRGIDDKHNSCKTSQTYVRALTSNNKLVGMRWIRIDTSCVLSRKIGRT 120

RESULT 5
US-08-450-842-4
; Sequence 4, Application US/08450842
; Patent No. US20020045576A1
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/450,842
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2C1D3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 257 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-450-842-4

Query Match 96.3%; Score 641; DB 8; Length 257;
Best Local Similarity 99.2%; Pred. No. 3.1e-63;
Matches 118; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 YAEKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
DB 139 YAEKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 198
QY 62 RPYKNGCGRIDDKHNSCKTSQTYVRALTSNNKLVGMRIIRIDTSCVSLSRKIGRT 120
DB 199 RPYKNGCGRIDDKHNSCKTSQTYVRALTSNNKLVGMRIIRIDTSCVSLSRKIGRT 257

RESULT 6
US-09-745-032-6
Sequence 6, Application US/09745032
Patent No. US20010027179A1
GENERAL INFORMATION:
APPLICANT: Boone, Thomas C.
APPLICANT: Cheung, Ellen N.
APPLICANT: Hershenon, Susan I.
APPLICANT: Young, John D.
TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
FILE REFERENCE: A-411A US Revised073100
CURRENT APPLICATION NUMBER: US/09/745,032
CURRENT FILING DATE: 2000-12-19
PRIOR APPLICATION NUMBER: 09/214,214
PRIOR FILING DATE: 1998-12-23
PRIOR APPLICATION NUMBER: US 08/684,353
PRIOR FILING DATE: 1996-07-19
NUMBER OF SEQ ID NOS: 12
SOFTWARE: Patentln Ver. 2.1
SEQ ID NO 6
LENGTH: 119
TYPE: PRT
ORGANISM: Human
US-09-745-032-6

Query Match 96.3%; Score 629; DB 10; Length 119;
Best Local Similarity 97.5%; Pred. No. 2.6e-62;
Matches 116; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 YAEKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
DB 1 YAEKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60
QY 62 RPYKNGCGRIDDKHNSCKTSQTYVRALTSNNKLVGMRIIRIDTSCVSLSRKIGRT 120
DB 61 APVNGCGRIDDKHNSCKTSQTYVRALTSNNKLVGMRIIRIDTSCVSLSRKIGRT 119

RESULT 7

US-09-742-600-6
Sequence 6, Application US/09742600
Patent No. US20020010135A1
GENERAL INFORMATION:
APPLICANT: Boone, Thomas C.
APPLICANT: Cheung, Ellen N.
APPLICANT: Hershenon, Susan I.
APPLICANT: Young, John D.
TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
FILE REFERENCE: A-411A US Revised073100
CURRENT APPLICATION NUMBER: US/09/742,600
CURRENT FILING DATE: 2000-12-19
PRIOR APPLICATION NUMBER: 09/214,214
PRIOR FILING DATE: 1998-12-23
PRIOR APPLICATION NUMBER: US 08/684,353
PRIOR FILING DATE: 1996-07-19
NUMBER OF SEQ ID NOS: 12
SOFTWARE: Patentln Ver. 2.1
SEQ ID NO 6
LENGTH: 119
TYPE: PRT
ORGANISM: Human
US-09-742-600-6

Query Match 96.3%; Score 629; DB 10; Length 119;
Best Local Similarity 97.5%; Pred. No. 2.6e-62;
Matches 116; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 YAEKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
DB 1 YAEKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60
QY 62 RPYKNGCGRIDDKHNSCKTSQTYVRALTSNNKLVGMRIIRIDTSCVSLSRKIGRT 120
DB 61 APVNGCGRIDDKHNSCKTSQTYVRALTSNNKLVGMRIIRIDTSCVSLSRKIGRT 119

RESULT 8
US-09-872-090-6
Sequence 6, Application US/09872090
Patent No. US20020052488A1
GENERAL INFORMATION:
APPLICANT: Boone, Thomas C.
APPLICANT: Cheung, Ellen Ngol Yin
APPLICANT: Hershenon, Susan I.
APPLICANT: Young, John D.
TITLE OF INVENTION: Analogs of NT-3 (As Amended)
FILE REFERENCE: A-411B
CURRENT APPLICATION NUMBER: US/09/872,090
CURRENT FILING DATE: 2001-06-01
PRIOR APPLICATION NUMBER: 09/255,953
PRIOR FILING DATE: 1999-02-23
PRIOR APPLICATION NUMBER: 08/684,353
PRIOR FILING DATE: 1996-07-19
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentln Ver. 2.1
SEQ ID NO 6
LENGTH: 119
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Analog of
US-09-872-090-6

Query Match 96.3%; Score 629; DB 10; Length 119;
Best Local Similarity 97.5%; Pred. No. 2.6e-62;
Matches 116; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 YAEKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 61
DB 1 YAEKSHRGEYSVCDSESLMTDKSSAIDIRGHQVTVLGEIKTGNSPVKQFYETRCKEA 60

Oy 62 RPVKNCGRGIDDKHNNKSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVSAISRKIGRT 120
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Db 61 APVDNCGRGIDDKHNNKSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVSAISRKIGRT 119

RESULT 9
US-09-745-032-3
; Sequence 3, Application US/09745032
; Patent No. US20010027179A1
; GENERAL INFORMATION:

; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Herhenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/745,032
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 3
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-745-032-3

Query Match 96.3%; Score 629; DB 10: Length 120;
Best Local Similarity 97.5%; Pred. No. 2.7e-62;
Matches 116; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Oy 2 YAEHSHRGEYSVCDSESLMWTDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
|||
Db 2 YAEHSHRGEYSVCDSESLMWTDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
Oy 62 RPVKNCGRGIDDKHNNKSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVSAISRKIGRT 120
|||
Db 62 APVDNCGRGIDDKHNNKSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVSAISRKIGRT 120

RESULT 10
US-09-742-600-3
; Sequence 3, Application US/09742600
; Patent No. US20020010135A1
; GENERAL INFORMATION:

; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Herhenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/742,600
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 3
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Human
US-09-742-600-3

Query Match 96.3%; Score 629; DB 10: Length 120;
Best Local Similarity 97.5%; Pred. No. 2.7e-62;
Matches 116; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
Oy 2 YAEHSHRGEYSVCDSESLMWTDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61

Db 2 YAEHSHRGEYSVCDSESLMWTDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
|||
Oy 62 RPVKNCGRGIDDKHNNKSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVSAISRKIGRT 120
|||
Db 62 APVDNCGRGIDDKHNNKSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVSAISRKIGRT 120

RESULT 11
US-09-872-090-3
; Sequence 3, Application US/09872090
; Patent No. US20020052488A1
; GENERAL INFORMATION:

; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen Ngai Yin
; APPLICANT: Herhenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF NT-3 (As Amended)
; FILE REFERENCE: A-411B
; CURRENT APPLICATION NUMBER: US/09/872,090
; CURRENT FILING DATE: 2001-06-01
; PRIOR APPLICATION NUMBER: 09/255,953
; PRIOR FILING DATE: 1999-02-23
; PRIOR APPLICATION NUMBER: 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 3
; LENGTH: 120
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Analog of
US-09-872-090-3

Query Match 96.3%; Score 629; DB 10: Length 120;
Best Local Similarity 97.5%; Pred. No. 2.7e-62;
Matches 116; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Oy 2 YAEHSHRGEYSVCDSESLMWTDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
|||
Db 2 YAEHSHRGEYSVCDSESLMWTDKSSAIDIRGHQVTVLGEITGNSPVKQYFETRCKEA 61
Oy 62 RPVKNCGRGIDDKHNNKSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVSAISRKIGRT 120
|||
Db 62 APVDNCGRGIDDKHNNKSOCKTSQTYVRALTSNNKLVGMRWIRIDTSCVSAISRKIGRT 120

RESULT 12
US-09-745-032-7
; Sequence 7, Application US/09745032
; Patent No. US20010027179A1
; GENERAL INFORMATION:

; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Herhenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/745,032
; CURRENT FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; PRIOR FILING DATE: 1996-07-19
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 7
; LENGTH: 117
; TYPE: PRT
; ORGANISM: Human
US-09-745-032-7

Query Match 96.3%; Score 629; DB 10: Length 120;
Best Local Similarity 97.5%; Pred. No. 2.7e-62;
Matches 116; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

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Query Match          94.8%; Score 619; DB 10; Length 117;
Best Local Similarity 97.4%; Pred. No. 3.2e-61;
Matches 114; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 YAEKSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
DB 1 YAEKSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 60
QY 62 RPYKNGCRGIDDKHMSNCKTSQTYVRALTSNNKLVGMWRIRIDTSCVLSRRIG 118
DB 61 APVNGCRGIDDKHMSNCKTSQTYVRALTSNNKLVGMWRIRIDTSCVLSRRIG 117

RESULT 13
US-09-742-600-7
; Sequence 7, Application US/09742600
; Patent No. US20020010135A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hershenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/742,600
; PRIOR FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO 7
; LENGTH: 117
; TYPE: PRT
; ORGANISM: Human
US-09-742-600-7

Query Match          94.8%; Score 619; DB 10; Length 117;
Best Local Similarity 97.4%; Pred. No. 3.2e-61;
Matches 114; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 YAEKSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
DB 1 YAEKSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 60
QY 62 RPYKNGCRGIDDKHMSNCKTSQTYVRALTSNNKLVGMWRIRIDTSCVLSRRIG 118
DB 61 APVNGCRGIDDKHMSNCKTSQTYVRALTSNNKLVGMWRIRIDTSCVLSRRIG 117

RESULT 14
US-09-872-090-7
; Sequence 7, Application US/09872090
; Patent No. US20020052488A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen Ngol Yin
; APPLICANT: Hershenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: Analogs of NT-3 (As Amended)
; FILE REFERENCE: A-411B
; CURRENT APPLICATION NUMBER: US/09/872,090
; PRIOR FILING DATE: 2001-06-01
; PRIOR APPLICATION NUMBER: 09/255,953
; PRIOR FILING DATE: 1999-02-23
; PRIOR APPLICATION NUMBER: 08/684,353
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO 7
; LENGTH: 117
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; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Analog of
; OTHER INFORMATION: human NT-3.
US-09-872-090-7

Query Match          94.8%; Score 619; DB 10; Length 117;
Best Local Similarity 97.4%; Pred. No. 3.2e-61;
Matches 114; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 YAEKSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
DB 1 YAEKSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 60
QY 62 RPYKNGCRGIDDKHMSNCKTSQTYVRALTSNNKLVGMWRIRIDTSCVLSRRIG 118
DB 61 APVNGCRGIDDKHMSNCKTSQTYVRALTSNNKLVGMWRIRIDTSCVLSRRIG 117

RESULT 15
US-09-745-032-5
; Sequence 5, Application US/09745032
; Patent No. US20010027179A1
; GENERAL INFORMATION:
; APPLICANT: Boone, Thomas C.
; APPLICANT: Cheung, Ellen N.
; APPLICANT: Hershenson, Susan I.
; APPLICANT: Young, John D.
; TITLE OF INVENTION: ANALOGS OF CATIONIC PROTEINS
; FILE REFERENCE: A-411A US Revised073100
; CURRENT APPLICATION NUMBER: US/09/745,032
; PRIOR FILING DATE: 2000-12-19
; PRIOR APPLICATION NUMBER: 09/214,214
; PRIOR FILING DATE: 1998-12-23
; PRIOR APPLICATION NUMBER: US 08/684,353
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO 5
; LENGTH: 118
; TYPE: PRT
; ORGANISM: Human
US-09-745-032-5

Query Match          94.8%; Score 619; DB 10; Length 118;
Best Local Similarity 97.4%; Pred. No. 3.3e-61;
Matches 114; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 YAEKSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
DB 2 YAEKSHRGEYSVCDSESLWTDKSSAIDIRGHQVTVLGEIKTGNSPVKQYFETRCKEA 61
QY 62 RPYKNGCRGIDDKHMSNCKTSQTYVRALTSNNKLVGMWRIRIDTSCVLSRRIG 118
DB 62 APVNGCRGIDDKHMSNCKTSQTYVRALTSNNKLVGMWRIRIDTSCVLSRRIG 118
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Job time : 5.2204 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:37 : Search time 25.9086 Seconds
(without alignments)
668.605 Million cell updates/sec

Title: US-10-072-681-6

Perfect score: 698
Sequence: 1 GVSETPAPASRGEALVCAV.....RWIRIDFACVCTLSRTGRA 130

Scoring table: BLOSUM62
Gapop 10.0 , Gapept 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	698	100.0	130	AAW48890	Human neurotrophin
2	698	100.0	130	AAW48890	Human neurotrophin-4
3	698	100.0	210	AAW48890	Neurotrophic facto
4	698	100.0	210	AAW48890	Neurotrophic facto
5	698	98.7	130	AAW48890	Human neurotrophin
6	698	98.7	215	AAW48890	Human neurotrophin-4
7	698	98.7	215	AAW48890	Human NT-4 encode
8	698	98.0	130	AAW48890	Neurotrophic facto
9	698	98.0	130	AAW48890	Neurotrophic facto
10	698	97.9	130	AAW48890	Neurotrophic facto

11	683	97.9	130	AAW48890	Neurotrophic facto
12	683	97.9	215	AAW48890	Human NT-4, encode
13	682	97.7	130	AAW48890	Neurotrophic facto
14	680	97.4	130	AAW48890	Neurotrophic facto
15	678	97.1	130	AAW48890	Neurotrophic facto
16	676	96.8	130	AAW48890	Neurotrophic facto
17	650	93.1	126	AAW48890	Neurotrophic facto
18	642	92.0	124	AAW48890	Neurotrophic facto
19	586	84.0	114	AAW48890	Neurotrophic facto
20	565	80.9	118	AAW48890	Neurotrophic facto
21	540	77.4	142	AAW48890	Neurotrophic facto
22	535.5	76.7	107	AAW48890	Neurotrophic facto
23	499.5	71.6	186	AAW48890	Neurotrophic facto
24	494.5	70.8	216	AAW48890	Neurotrophic facto
25	475.5	68.1	257	AAW48890	Neurotrophic facto
26	415	59.5	236	AAW48890	Neurotrophic facto
27	415	59.5	237	AAW48890	Neurotrophic facto
28	415	59.5	239	AAW48890	Neurotrophic facto
29	367	52.6	132	AAW48890	Neurotrophic facto
30	364	52.1	123	AAW48890	Neurotrophic facto
31	361	51.7	123	AAW48890	Neurotrophic facto
32	360	51.6	119	AAW48890	Neurotrophic facto
33	360	51.6	119	AAW48890	Neurotrophic facto
34	360	51.6	120	AAW48890	Neurotrophic facto
35	360	51.6	120	AAW48890	Neurotrophic facto
36	358	51.3	119	AAW48890	Neurotrophic facto
37	358	51.3	119	AAW48890	Neurotrophic facto
38	358	51.3	119	AAW48890	Neurotrophic facto
39	358	51.3	119	AAW48890	Neurotrophic facto
40	358	51.3	119	AAW48890	Neurotrophic facto
41	358	51.3	120	AAW48890	Neurotrophic facto
42	358	51.3	120	AAW48890	Neurotrophic facto
43	358	51.3	120	AAW48890	Neurotrophic facto
44	358	51.3	120	AAW48890	Neurotrophic facto
45	358	51.3	120	AAW48890	Neurotrophic facto

ALIGNMENTS

RESULT 1	AAW48890	standard; Protein: 130 AA.
ID	AAW48890	
AC	AAW48890;	
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DT	12-OCT-1998	(first entry)
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DE	Human neurotrophin-4/5.	
XX		
KW	Neurotrophin-4/5; NT-4/5; human; purification;	
KW	hydrophobic interaction chromatography.	
XX		
OS	Homo sapiens.	
XX		
FT	Key	Location/Qualifiers
FT	Region	61..78
FT		/note="conserved Cys-containing region involved in Cys knot motif"
FT	Region	119..121
FT		/note="conserved Cys-containing region involved in Cys knot motif"
PN	WO9821234-A2.	
XX		
PD	22-MAY-1998.	
XX		
PE	14-NOV-1997;	97NOV-US21068.
XX		
PR	29-MAY-1997;	97US-0047855.
PR	15-NOV-1996;	96US-0030838.
XX		
PA	(GETH) GENENTECH INC.	

XX	PI	Beck JT, Burton LE, Schmelzer CH;
XX	DR	WPI; 1998-322333/28.
XX	PT	Isolation of neurotrophin(s) from, e.g. mis-folded or glycosylated
XX	PT	variants(s) - using hydrophobic interaction chromatography,
XX	PT	optionally in combination with high performance cation exchange
XX	PT	chromatography
XX	PS	Disclosure; Page 38: 59pp: English.
XX	CC	This polypeptide comprises human neurotrophin-4/5 (NT-4/5) mature
XX	CC	polypeptide. Methods are provided for large-scale purification of
XX	CC	neurotrophins, including NT-4/5, suitable for clinical use. A
XX	CC	claimed method comprises: (1) separating the neurotrophin from the
XX	CC	other proteins using a hydrophobic interaction chromatography resin
XX	CC	(HICR); and optionally (2) separating the neurotrophin from a
XX	CC	chemical variant by high performance cation exchange chromatography
XX	CC	(HCEC). The processes can also be used for purification of e.g.
XX	CC	human nerve growth factor (NGF) (see AAM48886), mouse NGF (see
XX	CC	AAM48887), brain-derived neurotrophic factor (see AAM48888) and
XX	CC	neurotrophin-3 (see AAM48889). The processes allow separation of
XX	CC	neurotrophins from various undesirable misprocessed, misfolded,
XX	CC	size, glycosylated or charge forms. They allow selective
XX	CC	separation from variants and other molecules, and from other
XX	CC	polypeptides with high pI. The processes are applicable to
XX	CC	starting materials from various sources, including fermentation
XX	CC	broths or lysed bacterial or mammalian cells.
XX	SO	Sequence 130 AA:
XX	SO	Query Match 100.0%; Score 638; DB 19; Length 130;
XX	SO	Best Local Similarity 100.0%; Pied. No. 1.7e-71;
XX	SO	Matches 130; Conservative 0; Mismatches 0; Indels 0; Gaps
QY	1	GVSEFAAPSRRGELAVCDVANSGMTDRTAVDLRGREVLGVPAAGSPLRQYFETR 60
DB	1	GVSEFAAPSRRGELAVCDVANSGMTDRTAVDLRGREVLGVPAAGSPLRQYFETR 60
QY	61	CKADNAEEGCGAGGCGRGVDRRHWWSECKAKOSYRALTAHAGRGVGRWIRIDTACV 120
DB	61	CKADNAEEGCGAGGCGRGVDRRHWWSECKAKOSYRALTAHAGRGVGRWIRIDTACV 120
QY	121	CTLLSRTGTA 130
DB	121	CTLLSRTGTA 130
XX	RESULT 2	
XX	AAB29112	
XX	ID	AAB29112 standard; Protein; 130 AA.
XX	XX	AAB29112;
XX	DT	02-FEB-2001 (first entry)
XX	DE	Human neurotrophin-4/5.
XX	XX	Neurotrophin; trkB; trkC; ototoxicity-related balance impairment;
XX	KW	Mendele's syndrome; myringitis; otitis media;
XX	KW	acute vestibular neuronitis; herpes zoster ophthalmicus; labyrinthitis;
XX	XX	Middle; labyrinthine tumour; petrositis; otosclerosis; bacteria.
XX	OS	Homo sapiens.
XX	PN	US6121235-A.
XX	PD	19-SEP-2000.
XX	PF	29-DEC-1995; 95US-0581662.
XX	PR	29-DEC-1995; 95US-0581662.

[illegible]

FT a receptor"

PN W0200017360-A1.

XX 30-MAR-2000.

XX 19-MAR-1999; 99WO-US05908.

XX 22-SEP-1998; 98WO-US19772.

XX (UYMA-) UNIV MARYLAND BALTIMORE.

XX Weintrub BD, Szkuclinski MM;

XX WPI; 2000-283585/24.

DR New mutant cysteine knot growth factor proteins comprising one or more

PT mutant subunits, useful for treating or preventing diseases e.g.

PT hypothyroidism and thyroid cancer

PS Claim 177; Page 300; 320pp: English.

XX This is the wild type human neurotrophin-4 monomer.

CC Mutants comprise at least one electrostatic charge altering mutation in a

CC beta hairpin loop, resulting in increased bioactivity.

CC Mutant cysteine knot growth factor (CKGF) proteins comprising one or more

CC mutant subunits and having novel properties or improved pharmacological

CC properties, compared to wild type CKGFs, are claimed. The CKGF

CC superfamily, comprises at least four families of growth factors: the

CC glycoprotein hormones, the platelet-derived growth factor (PDGF) family,

CC the neurotrophins and the transforming growth factor-beta family; the

CC families are known to be structurally similar (especially comprising the

CC cysteine knot topology) and it was shown that mutations at certain

CC positions in the CKGF hairpin loops of family members and other members

CC of the CKGF superfamily could significantly alter the biological

CC activities of the CKGF.

CC Mutant neurotrophins are useful for diagnosis and treatment of

CC neurodegenerative diseases.

XX

SQ Sequence 130 AA;

Query Match 98.7%; Score 689; DB 21; Length 130;

Best Local Similarity 99.2%; Pred. No. 1.8e-70;

Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVSETAPASRRGELAVCDVSGWTDRTAVDLRGREVEVLGEVPAGGSPLRQYFFETR 60

DB 1 GVSETAPASRRGELAVCDVSGWTDRTAVDLRGREVEVLGEVPAGGSPLRQYFFETR 60

QY 61 CKADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRALTAHAOGRGVGMWIRIDTACY 120

DB 61 CKADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRALTAHAOGRGVGMWIRIDTACY 120

QY 121 CTLLSRTGRA 130

DB 121 CTLLSRTGRA 130

RESULT 6

AAR30691

ID AAR30691 standard; Protein; 215 AA.

XX AAR30691;

XX 18-MAY-1993 (first entry)

XX Human neurotrophin-4.

XX stress protector protein; protection; toxic shock; stress;

XX stress susceptibility.

XX Homo sapiens.

FN Key Location/Qualifiers

FT Region 81..83

FT /label= N-glycosylation consensus sequence.

FT Cleavage-site 84..85

XX /label= predicted preprotein cleavage site

XX W09222665-A.

XX 23-DEC-1992.

XX 11-JUN-1992; 92WO-US05006.

XX 12-JUN-1991; 91US-0715185.

XX 21-NOV-1991; 91US-0796106.

XX (REG-) REGENERON PHARM INC.

XX Fandl JP, Panayotatos N;

XX WPI; 1993-018148/02.

XX P-PSDB; AAR30690.

XX Recovery of recombinant biologically active neurotrophin(s)

PT comprises solubilising protein in soln. contg. strong denaturing

PT agent and free of reducing agent

PS Claim 83; Fig 11; 164pp: English.

XX This sequence represents human neurotrophin 4. The coding sequence

CC is fused to lamb signal sequences to enable its recombinant production.

CC The protein is newly discovered and its biological role under

CC investigation.

XX

SQ Sequence 215 AA;

Query Match 98.7%; Score 689; DB 14; Length 215;

Best Local Similarity 99.2%; Pred. No. 3.4e-70;

Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVSETAPASRRGELAVCDVSGWTDRTAVDLRGREVEVLGEVPAGGSPLRQYFFETR 60

DB 86 GVSETAPASRRGELAVCDVSGWTDRTAVDLRGREVEVLGEVPAGGSPLRQYFFETR 145

QY 61 CKADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRALTAHAOGRGVGMWIRIDTACY 120

DB 146 CKADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRALTAHAOGRGVGMWIRIDTACY 205

QY 121 CTLLSRTGRA 130

DB 206 CTLLSRTGRA 215

RESULT 7

AAR47102

ID AAR47102 standard; Protein; 215 AA.

XX AAR47102;

XX 21-JUN-1994 (first entry)

XX Human NT-4 encode by genomic phage clone 7-2.

XX Neurotrophin-4; NT-4; vLper; Xenopus; rat; human; nerve growth factor;

XX brain-derived neurotrophin factor; BDNF; NGF; acute neuropraxia; NT-3;

XX gene family; survival; growth; differentiation; neuron; cholinergic;

XX basal forebrain; cholinergic neuron; dopaminergic; neuron disease;

XX peripheral neuropathy; hippocampus; striatum; neurotmesis; atonemesis;

XX diabetic neuropathy; amyotrophic lateral sclerosis; compression;

XX tumour; abscess; trauma; Alzheimer's disease; Parkinson's disease;

XX retina; retinal ganglion cell degeneration; antibody; diagnosis.

XX Homo sapiens.

PN MO9325684-A.
XX 23-DEC-1993.
XX
PF 11-JUN-1993; 93WO-US05672.
XX
PR 12-JUN-1992; 92US-0898194.
XX
PA (REGG-) REGENERON PHARM INC.
XX
PI Altar CA, Distefano P, Ip N, Ventimiglia R, Wiegand S;
PI Wong V, Yancopoulos GD;
XX
DR WPI; 1994-007541/01.
XX N-PSDB; AAQ54715.
XX
PT Neurotrophin-4-proteins which support survival, growth and
PT differentiation of motor neurons - used to treat motor neuron
PT disorders e.g. dopaminergic and cholinergic neuron diseases
XX
PS Disclosure; Page 145; 181pp; English.
XX
XX The sequences given in AAR47095-104 represent neurotrophin-4 (NT-4),
CC fragments and derivatives of NT-4, and were derived from viper,
CC Xenopus, rat and human. NT-4 is a member of the brain-derived
CC neurotrophin factor (BDNF)/nerve growth factor (NGF)/NT-3 gene family.
CC NT-4 proteins can promote the survival, growth and differentiation
CC of neurons, such as basal forebrain cholinergic neurons. NT-4
CC proteins can be used to treat dopaminergic or cholinergic neuron
CC diseases and disorders. NT-4 related proteins may be used to treat
CC peripheral neuropathy and diseases of the hippocampus and striatum.
CC Disorders which may be treated in this way, include acute neuropathia,
CC neurometast, atoxmesia, diabetic neuropathy, amyotrophic lateral
CC sclerosis or compression, a tumour, abscess, trauma, Alzheimer's
CC disease, Parkinson's disease or a disorder of the retina, especially
CC involving retinal ganglion cell degeneration. Anti-NT-4 antibodies
CC may be used for diagnostic or therapeutic purposes, eg. to monitor the
CC progression of diseases associated with alterations in the pattern of
CC NT-4 expression.
XX
SQ Sequence 215 AA;
Query Match 98.7%; Score 689; DB 15; Length 215;
Best Local Similarity 99.2%; Pred. No. 3.4e-70;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 GVSSTAPASRSGELAVCDVSGWTTDRRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
DB ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB 86 GVSSTAPASRSGELAVCDVSGWTTDRRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 145
OY 61 CKADNAEEGGGAGGCGRGVDRRRHWYSECKAKOSYVRLTAHAGRGVGMIRIDTACV 120
DB ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB 146 CKADNAEEGGGAGGCGRGVDRRRHWYSECKAKOSYVRLTAHAGRGVGMIRIDTACV 205
OY 121 CTLLSRTGRA 130
DB ||||||||||||
DB 206 CTLLSRTGRA 215

RESULT 8
AAR22477
ID AAR22477 standard; Protein: 130 AA.
XX
AC AAR22477;
XX
DT 22-SEP-1992 (first entry)
XX
DE Neurotrophic factor 4 activity variants.
XX
KM NT-4; NGF; NT-3; BDNF; variant; deletion; tertiary structure;
KM homology; activity.
XX
OS Synthetic.

XX
FH Key Location/Qualifiers
FT Misc-difference 53..53
FT /Label- HTS
XX
XX WO9205254-A.
XX
XX 02-APR-1992.
XX
XX 24-SEP-1991; 91WO-US06950.
XX
XX 25-SEP-1990; 90US-0587707.
XX 31-JAN-1991; 91US-0648482.
XX
XX (GETH) GENENTECH INC.
XX
XX Rosenthal A;
XX
XX WPI; 1992-132123/16.
XX
XX Neurotrophic factor-4 - useful for treating neurodegenerative
XX diseases e.g. Alzheimer's and Parkinson's diseases, nerve cells
XX damaged by e.g. diabetes
XX
XX Disclosure; Seq 59; 84pp; English.
XX
XX The sequence shows an NT-4 variant protein, in which the Arg
XX residue at position 133 of NT-4 (sequence given in AAR22465), is
XX replaced by a His residue. This corresponds to position 53 of the
XX mature NT-4 protein. This substitution renders the NT-4 resistant to
XX proteolysis, thereby creating a variant of NT-4 that is more stable.
XX The sites of greatest interest for substitutional mutagenesis include
XX sites where the amino acids found in BDNF, NGF, NT-3, and NT-4 are
XX substantially different in terms of side chain bulk, charge or
XX hydrophobicity, but where there is also a high degree of homology at
XX the selected site within various animal analogues of BDNF, NGF and
XX NT-3.
XX
SQ Sequence 130 AA;
Query Match 98.0%; Score 684; DB 13; Length 130;
Best Local Similarity 98.5%; Pred. No. 6.8e-70;
Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 GVSSTAPASRSGELAVCDVSGWTTDRRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
DB ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB 1 GVSSTAPASRSGELAVCDVSGWTTDRRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
OY 61 CKADNAEEGGGAGGCGRGVDRRRHWYSECKAKOSYVRLTAHAGRGVGMIRIDTACV 120
DB ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB 61 CKADNAEEGGGAGGCGRGVDRRRHWYSECKAKOSYVRLTAHAGRGVGMIRIDTACV 120
OY 121 CTLLSRTGRA 130
DB ||||||||||||
DB 121 CTLLSRTGRA 130

RESULT 9
AAR22479
ID AAR22479 standard; Protein: 130 AA.
XX
AC AAR22479;
XX
DT 22-SEP-1992 (first entry)
XX
DE Neurotrophic factor 4 activity variants.
XX
KM NT-4; NGF; NT-3; BDNF; variant; deletion; tertiary structure;
KM homology; activity.
XX
OS Synthetic.
FH Key Location/Qualifiers

XX	Misc-difference	108..108
FT	/Label= PHE	
PN		
XX	WO9205254-A.	
PD	02-APR-1992.	
XX		
PF	24-SEP-1991;	91MO-US06950.
XX		
PR	25-SEP-1990;	90US-0587707.
PR	31-JAN-1991;	91US-0648482.
XX		
PA	(GETH) GENENTECH INC.	
XX		
PI	Rosenthal A:	
XX		
DR	WPI; 1992-132123/16.	
XX		
PT	Neurotrophic factor-4 - useful for treating neuro-degenerative diseases e.g. Alzheimer's and Parkinson's diseases, nerve cells damaged by e.g. diabetes	
XX		
PS	Disclosure; Seq 61; 84pp; English.	
XX		
CC	The sequence shows an NT-4 variant protein, in which the Phe residue at position 188 of NT-4 (sequence given in AAR22465), is replaced by a His residue. This corresponds to position 108 of the mature NT-4 protein. The sites of greatest interest for substitutional mutagenesis include sites where the amino acids found in BDNF, NGF, NT-3, and NT-4 are substantially different in terms of side chain bulk, charge or hydrophobicity, but where there is also a high degree of homology at the selected site within various animal analogues of BDNF, NGF and NT-3.	
CC		
XX		
SQ	Sequence	130 AA;
XX		
Query Match	98.0%;	Score 684; DB 13; Length 130;
Best Local Similarity	98.5%;	Pred. NO. 6.8e-70;
Matches 128; Conservative	0;	Mismatches 2; Indels 0; Gaps 0.
OY	1 GVSEFAFPASRRGELAVCDVAVSGMTVDRTTAVDILRGREVEVLGEVPAAAGSPPLROYFFETR	60
DB	1 GVSEFAFPASRRRELAVCDVAVSGMTVDRTTAVDILRGREVEVLGEVPAAAGSPPLROYFFETR	60
OY	61 CKADNAEEGGPGAGGGCGVDNRHHWSECKAKOSIVRALTHAOGRCGVKRIRIDTACY	120
DB	61 CKADNAEEGGPGAGGGCGVDNRHHWSECKAKOSIVRALTDAGRFGMWRIRIDTACY	120
OY	121 CTLLSRTGRA	130
DB	121 CTLLSRTGRA	130
XX		
RESULT 10		
ID	AAR22471	
AC	AAR22471 standard; Protein; 130 AA.	
XX		
AC	AAR22471;	
XX		
DT	22-SEP-1992 (first entry)	
XX		
DE	Neurotrophic factor 4 variants (E67).	
XX		
KW	NT-4; NT-3; BDNF; NGF; mutagenesis; substitution; non-conservative.	
XX		
OS	Homo sapiens.	
XX		
FH	Key	Location/Qualifiers
FT	Misc-difference	67..67
XX		
FT	/Label= SER, THR	
XX		
PN	WO9205254-A.	
XX		

[illegible]

PF 24-SEP-1991; 91MO-US06950.
 XX
 PR 25-SEP-1990; 90US-0587707.
 PR 31-JAN-1991; 91US-0648482.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PI Rosenthal A;
 XX
 DR WPI; 1992-132123/16.
 XX
 PT Neurotrophic factor-4 - useful for treating neurodegenerative
 PT diseases e.g. Alzheimer's and Parkinson's diseases, nerve cells
 PT damaged by e.g. diabetes
 PS Disclosure; Seq 62-67; 84pp; English.
 XX
 CC The sequence shows a portion of the amino acid sequence of human
 CC neurotrophic factor-4 (NT-4). (full sequence AAR22465). Position 84
 CC is a point at which substitution mutation causes a marked
 CC differentiation in the activity of the trophic element. Either Gln,
 CC His, Asn, Thr, Tyr or Trp may be included at this point. The sites
 CC of greatest interest for substitutional mutagenesis include sites
 CC where the amino acids found in BDNF, NGF, NT-3, and NT-4 are
 CC substantially different in terms of side chain bulk, charge, or
 CC hydrophobicity, but where there is also a high degree of homology at
 CC the selected site within various animal analogues of NGF, NT-3 and
 CC BDNF.
 CC
 SQ Sequence 130 AA;
 XX

Query Match 97.9%; Score 683; DB 13; Length 130;
 Best Local Similarity 98.5%; Pred. No. 8.9e-70;
 Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVSETAPASRRGELAVCDVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFEETR 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 1 GVSETAPASRRGELAVCDVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFEETR 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||

QY 61 CKADNAEEGGPGAGGCGRGVDRRHWSSECKAKOSYVRLTAHQGVGMIRIDTACV 120
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 61 CKADNAEEGGPGAGGCGRGVDRRHWSSECKAKOSYVRLTAHQGVGMIRIDTACV 120
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||

QY 121 CTLLSRTGRA 130
 ||||||||
 DB 121 CTLLSRTGRA 130
 ||||||||

RESULT 12
 AAR29735
 ID AAR29735 standard; Protein: 215 AA.
 XX
 AC AAR29735;
 XX
 DT 22-APR-1993 (first entry)
 XX
 DE Human NT-4, encoded by clone 7-2.
 XX
 KW Neurotrophin; NT; nerve growth factor; NGF;
 KW brain-derived neurotrophic factor; BDNF; probe; primer.
 XX
 OS Homo sapiens.
 XX
 PH Key Location/Qualifiers
 FT MISC-difference 2 /note- "conserved residue in presequence"
 FT MISC-difference 6 /note- "conserved residue in presequence"
 FT MISC-difference 9 /note- "conserved residue in presequence"
 FT MISC-difference 48..51 /note- "conserved residues in presequence"
 FT MISC-difference 54 /note- "conserved residues in presequence"
 FT

FT /note- "conserved residue in presequence"
 FT MISC-difference 62 /note- "conserved residue in presequence"
 FT Modified-site 81..83
 FT FT Cleavage-site /label- N-glycosylation_site 84..85
 XX
 PN W09220365-A.
 XX
 PD 26-NOV-1992.
 XX
 PF 20-MAY-1992; 92MO-US04266.
 XX
 PR 21-MAY-1991; 91US-0703450.
 PR 12-JUL-1991; 91US-0729253.
 PR 23-JUL-1991; 91US-0734422.
 PR 28-AUG-1991; 91US-0751356.
 PR 20-SEP-1991; 91US-0762674.
 PR 14-NOV-1991; 91US-0791924.
 XX
 PA (REG-) REGENERON PHARM INC.
 XX
 PI Hallbook F, Ibanez Moliner CF, Persson HB, Yancopoulos GD;
 XX
 DR WPI; 1992-415468/50.
 DR N-PSDB; AA032230.
 XX
 XX
 PT Use of neurotrophin-4 for promoting growth and survival of nerve
 PT cells - useful in treating neurological, fertility and
 PT immunological disorders and in diagnosis
 PS Disclosure; Page 117-119 + Fig 18; 180pp; English.
 XX
 CC Oligonucleotide probes and primers were synthesised based on the NT
 CC family including NGF, BDNF and NT-3. These were used to isolate DNA
 CC encoding NT-4 from nucleic acid from Xenopus ovaries. This DNA was
 CC then used to isolate other mammalian DNA encoding NT-4, including
 CC human NT-4 DNA.
 CC
 SQ Sequence 215 AA;
 XX

Query Match 97.9%; Score 683; DB 13; Length 215;
 Best Local Similarity 98.5%; Pred. No. 1.6e-69;
 Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVSETAPASRRGELAVCDVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFEETR 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 86 GVSETAPASRRGELAVCDVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFEETR 145
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||

QY 61 CKADNAEEGGPGAGGCGRGVDRRHWSSECKAKOSYVRLTAHQGVGMIRIDTACV 120
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 146 CKADNAEEGGPGAGGCGRGVDRSHWSSECKAKOSYVRLTAHQGVGMIRIDTACV 205
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||

QY 121 CTLLSRTGRA 130
 ||||||||
 DB 206 CTLLSRTGRA 215
 ||||||||

RESULT 13
 AAR22481
 ID AAR22481 standard; Protein: 130 AA.
 XX
 AC AAR22481;
 XX
 DT 22-SEP-1992 (first entry)
 XX
 DE Neurotrophic factor 4 activity variants.
 XX
 KW NT-4; NT-3; BDNF; NGF; mutagenesis; substitution.
 KW Homo sapiens.
 OS
 XX
 PH Key Location/Qualifiers

```
FT Misc-difference 116..116
FT /note= "GLU, ASN, GLN, TYR, SER, THR"
XX
XX WO9205254-A.
XX 02-APR-1992.
XX
XX 24-SEP-1991; 91WO-US06950.
XX
XX 25-SEP-1990; 90US-0587707.
XX 31-JAN-1991; 91US-0648482.
XX
XX (GETH ) GENENTECH INC.
XX
XX Rosenthal A;
XX
XX WPI; 1992-132123/16.
XX
XX Neurotrophic factor-4 - useful for treating neuro:degenerative
XX diseases e.g. Alzheimer's and Parkinson's diseases, nerve cells
XX damaged by e.g. diabetes
XX
XX Disclosure: Seq 68-73; 84pp; English.
XX
XX The sequence shows a portion of the amino acid sequence of human
XX neurotrophic factor-4 (NT-4), (full sequence AAR22465). Position 116
XX is a point at which substitution mutation causes a marked
XX differentiation in the activity of the trophic element. Either Glu,
XX Asn, Gln, Tyr, Ser or Thr may be included at this point. The sites
XX of greatest interest for substitutional mutagenesis include sites
XX where the amino acids found in BDNF, NGF, NT-3, and NT-4 are
XX substantially different in terms of side chain bulk, charge, or
XX hydrophobicity, but where there is also a high degree of homology at
XX the selected site within various animal analogues of NGF, NT-3 and
XX BDNF.
XX
XX Sequence 130 AA:
SQ
Query Match 97.7%; Score 682; DB 13; Length 130;
Best Local Similarity 98.5%; Pred. No. 1,2e-69;
Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 GVSETAPASRRELAVCDVSGWTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
DB 1 GVSETAPASRRELAVCDVSGWTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
QY 61 CKADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRLTAHAGRGVGMIRIDTACV 120
DB 61 CKADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRLTAHAGRGVGMIRIDTACV 120
QY 121 CTLLSRTGRA 130
DB 121 CTLLSRTGRA 130
RESULT 14
AAR22470
ID AAR22470 standard; Protein; 130 AA.
XX
XX AAR22470;
XX
XX 22-SEP-1992 (first entry)
XX
XX Neurotrophic factor 4 variants (R85).
XX
XX NT-4; NT-3; BDNF; NGF; mutagenesis; substitution.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX Misc-difference 85..85
XX /label= GLU, PHE, PRO, TYR, TRP
XX
```

```
PN WO9205254-A.
XX
XX 02-APR-1992.
XX
XX 24-SEP-1991; 91WO-US06950.
XX
XX 25-SEP-1990; 90US-0587707.
XX 31-JAN-1991; 91US-0648482.
XX
XX (GETH ) GENENTECH INC.
XX
XX Rosenthal A;
XX
XX WPI; 1992-132123/16.
XX
XX Neurotrophic factor-4 - useful for treating neuro:degenerative
XX diseases e.g. Alzheimer's and Parkinson's diseases, nerve cells
XX damaged by e.g. diabetes
XX
XX Disclosure: Page 43; 84pp; English.
XX
XX The sequence shows a portion of the amino acid sequence of human
XX neurotrophic factor-4 (NT-4), (full sequence AAR22465). Position 85
XX is a point at which substitution mutation causes a marked
XX differentiation in the activity of the trophic element. Either Glu,
XX Phe, Pro, Tyr or Trp may be included at this point. The sites of
XX greatest interest for substitutional mutagenesis include sites where
XX the amino acids found in BDNF, NGF, NT-3, and NT-4 are substantially
XX different in terms of side chain bulk, charge, or hydrophobicity, but
XX where there is also a high degree of homology at the selected site
XX within various animal analogues of NGF, NT-3 and BDNF.
XX
XX Sequence 130 AA:
SQ
Query Match 97.4%; Score 680; DB 13; Length 130;
Best Local Similarity 98.5%; Pred. No. 2e-69;
Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 GVSETAPASRRELAVCDVSGWTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
DB 1 GVSETAPASRRELAVCDVSGWTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
QY 61 CKADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRLTAHAGRGVGMIRIDTACV 120
DB 61 CKADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRLTAHAGRGVGMIRIDTACV 120
QY 121 CTLLSRTGRA 130
DB 121 CTLLSRTGRA 130
RESULT 15
AAR22469
ID AAR22469 standard; Protein; 130 AA.
XX
XX AAR22469;
XX
XX 22-SEP-1992 (first entry)
XX
XX Neurotrophic factor 4 variants (G78).
XX
XX NT-4; NT-3; BDNF; NGF; mutagenesis; substitution.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX Misc-difference 78..78
XX /label= LYS, HIS, GLN, ARG
XX
XX WO9205254-A.
XX
XX 02-APR-1992.
XX
```

```

PF 24-SEP-1991; 91WO-US06950.
XX
PR 25-SEP-1990; 90US-0587707.
PR 31-JAN-1991; 91US-0648482.
XX
PA (GETH ) GENENTECH INC.
XX
PI Rosenthal A;
XX
DR WPI; 1992-132123/16.
XX
PT Neurotrophic factor-4 - useful for treating neuro:degenerative
PT diseases e.g. Alzheimer's and Parkinson's diseases, nerve cells
PT damaged by e.g. diabetes
XX
PS Disclosure; Page 40-41; 84pp; English.
XX
CC The sequence shows a portion of the amino acid sequence of human
CC neurotrophic factor-4 (NT-4), (full sequence AAR22465). Position 78
CC is a point at which substitution mutation causes a marked
CC differentiation in the activity of the trophic element. Either Lys,
CC His, Gln, or Arg may be included at this point. The sites of greatest
CC interest for substitutional mutagenesis include sites where the amino
CC acids found in BDNF, NGF, NT-3, and NT-4 are substantially different
CC in terms of side chain bulk, charge, or hydrophobicity, but where
CC there is also a high degree of homology at the selected site within
CC various animal analogues of NGF, NT-3 and BDNF.
XX
SQ Sequence 130 AA;

Query Match 97.1%; Score 678; DB 13; Length 130;
Best Local Similarity 98.5%; Pred. No. 3,3e-69;
Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 GVSETAPASRRGELAVCDVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLROYFFETR 60
   ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 GVSETAPASRRGELAVCDVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLROYFFETR 60

OY 61 CKADNAEEGGPGAGGCGRCVDRRHVWSECKAKOSYVALTAHAQGRVGRWIRIDTACV 120
   ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 61 CKADNAEEGGPGAGGCGRCVDRRHVWSECKAKOSYVALTAHAQGRVGRWIRIDTACV 120

OY 121 CTLLSRTGRA 130
   ||||||||||
Db 121 CTLLSRTGRA 130

```

Search completed: December 2, 2002, 15:08:40
 Job time : 25.9086 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 : Search time 10.3634 Seconds
(without alignments)
1205.921 Million cell updates/sec

Title: US-10-072-681-6

Perfect score: 698

Sequence: 1 GVSETAPASRSGELAVCDVAV.....RWIRIDTACVCTLLSRTGRA 130

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

1: p1r1:*
2: p1r2:*
3: p1r3:*
4: p1r4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	689	98.7	210	2 A42687	neurotrophin-4 pre
2	663	95.0	209	2 B42687	neurotrophin-4 pre
3	415	59.5	236	2 JH0400	neurotrophin-4 pre
4	358	51.3	257	2 C40304	neurotrophin-3 pre
5	358	51.3	257	2 I50400	neurotrophin-3 pre
6	358	51.3	258	2 S09155	neurotrophin-3 pre
7	358	51.3	282	2 A35781	hippocampus-derive
8	345	49.4	247	2 A40304	brain-derived neur
9	345	49.4	249	2 S12555	brain-derived neur
10	345	49.4	249	2 B40304	brain-derived neur
11	345	49.4	252	2 A30361	brain-derived neur
12	342	49.0	248	2 J06183	brain-derived neur
13	340	48.7	259	2 I51708	brain-derived neur
14	336	48.1	214	2 I84765	brain-derived neur
15	327	46.8	114	2 I50606	brain-derived neur
16	315	45.1	144	2 I51599	brain-derived neur
17	308.5	44.2	245	2 I55570	beta-nerve growth
18	307.5	44.1	125	2 A26312	nerve growth facto
19	307.5	44.1	229	2 I46614	nerve growth facto
20	305.5	43.8	303	1 NGRTBA	nerve growth facto
21	305.5	43.8	307	1 NGMSNG	nerve growth facto
22	302.5	43.3	243	2 A26311	nerve growth facto
23	297.5	42.6	286	1 NGHUBM	nerve growth facto
24	295.5	42.3	241	2 J10097	nerve growth facto
25	290	41.5	235	2 S14481	nerve growth facto
26	269.5	38.6	243	2 I51193	nerve growth facto
27	265	38.0	116	1 NGNUXI	nerve growth facto
28	264.5	37.9	117	2 S28161	nerve growth facto
29	255	36.5	116	2 A58566	nerve growth facto

30	255	36.5	246	2 A59218	nerve growth facto
31	241.5	34.6	194	2 I51709	nerve growth facto
32	228.5	32.7	286	2 S50855	neurotrophin-6 - s
33	90	12.9	992	2 T08772	hypothetical prote
34	83	11.9	949	2 JC7802	Urb protein - mous
35	80.5	11.5	1070	2 T31332	nuclease - Aeromon
36	80.5	11.5	1507	2 A40228	neurexin I-alpha p
37	80	11.5	622	2 JC5425	transcription init
38	79.5	11.4	372	2 H70595	probable enlc prot
39	76.5	11.0	860	1 EAMS	elastin precursor
40	76.5	11.0	1530	2 I45944	neurexin I-alpha -
41	74.5	10.7	577	2 B87010	probable isochoris
42	73.5	10.5	6260	2 T30228	polyketide synthas
43	72.5	10.4	625	2 S13919	potassium channel
44	72.5	10.4	940	2 T01854	hypothetical prote
45	72	10.3	894	2 C86756	prophage p12 prote

ALIGNMENTS

RESULT 1
A42687
neurotrophin-4 precursor - human
N:Alternate names: neurotrophin-5
C:Species: Homo sapiens (man)
C:Date: 31-Dec-1993 #sequence, revision 31-Dec-1993 #text, change 16-Jul-1999
C:Accession: A42687; JH0503
R:IP, N.Y.; Ibanez, C.F.; Nye, S.H.; McClain, J.; Jones, P.F.; Gies, D.R.; Belluscio, Proc. Natl. Acad. Sci. U.S.A. 89, 3060-3064, 1992
A:Title: Mammalian neurotrophin-4: structure, chromosomal localization, tissue distrib
A:Reference number: A42687; MUID:92212967; PMID:1313578
A:Accession: A42687
A:Molecule type: DNA
A:Residues: 1-210 <REP1>
A:Cross-references: GB:86528; NID:9190264; PID:AAA60154.1; PID:9190265
A:Note: sequence extracted from NCBI backbone (NCBIN:93810, NCBI:93811)
R:Berkeleier, L.R.; Winslow, J.W.; Kaplan, D.R.; Nikolic, K.; Goeddel, D.V.; Rosenth
Neuron 7, 857-866, 1991
A:Title: Neurotrophin-5: a novel neurotrophic factor that activates trk and trkB.
A:Reference number: JH0503; MUID:92075279; PMID:1742028
A:Accession: JH0503
A:Status: nucleic acid sequence not shown
A:Molecule type: DNA
A:Residues: 1-210 <BER>
C:Comment: The neurotrophins stimulate autophosphorylation and transduce signals thro
C:Genetics:
A:Gene: GDB:NFE5
A:Cross-references: GDB:134723; OMIM:162662
A:Map position: 19pter-19qter
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-24/Domain: signal sequence #status predicted <SIG>
F:25-80/Domain: propeptide #status predicted <PRO>
F:81-210/Product: neurotrophin-4 #status predicted <NUD>
F:76/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 98.7%; Score 689; DB 2; Length 210;
Best Local Similarity 99.2%; Pred. No. 1e-59;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVSETAPASRSGELAVCDVAVSGWYTDRTAVDLGREGVEVGEVPAAGCSPLROYFEETR 60
DB 81 GVSETAPASRSGELAVCDVAVSGWYTDRTAVDLGREGVEVGEVPAAGCSPLROYFEETR 140
QY 61 CKANAEEGCGAGCGCGRGVDRHRWVSECKAKOSYVALTAHOGGRVWRIRIDTACV 120
DB 141 CKANAEEGCGAGCGCGRGVDRHRWVSECKAKOSYVALTAHOGGRVWRIRIDTACV 200
QY 121 CTTLSRTGRA 130
DB 201 CTTLSRTGRA 210

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RESULT 2
B42687
neurotrophin-4 precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C>Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 16-Jul-1999
C:Accession: B42687; JH0504; JH0505
R:IP: N.Y.; Ibanez, C.F.; Nye, S.H.; McClain, J.; Jones, P.F.; Gies, D.R.; Belluscio, L.;
Proc. Natl. Acad. Sci. U.S.A. 89, 3060-3064, 1992
A:Title: Mammalian neurotrophin-4: structure, chromosomal localization, tissue distribut
A:Reference number: A42687; MUID:92212967; PMID:1333578
A:Accession: B42687
A:Status: Preliminary
A:Molecule type: DNA
A:Residues: 1-209 <IRPA>
A:Cross-references: GB:M6742; NID:9205775; PIDN:AAA1728.1; PID:9205776
R:Berkemeier, L.R.; Winslow, J.W.; Kaplan, D.R.; Nikolics, K.; Goeddel, D.V.; Rosenthal,
Neuron 7, 857-866, 1991
A:Title: Neurotrophin-5: a novel neurotrophic factor that activates trk and trkB.
A:Reference number: JH0503; MUID:92075279; PMID:1742028
A:Accession: JH0504
A:Molecule type: DNA
A:Residues: 1-209 <BER>
A:Accession: JH0505
A:Molecule type: mRNA
A:Residues: 1-176, 'P', 178-209 <BER1>
A:Cross-references: GB:S69323; NID:9240025; PIDN:AB20548.1; PID:9240026
C:Comment: This protein is a targeted-derived, diffusible neurotrophic factor.
C:Comment: The neurotrophins stimulate autophosphorylation and transduce signals through
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-79/Domain: propeptide #status predicted <PRO>
F:80-209/Product: neurotrophin-5 #status predicted <NEU>
F:75/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 95.0%; Score 663; DB 2; Length 209;
Best Local Similarity 94.6%; Pred. No. 3; Se-57;
Matches 123; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

OY 1 GVSFAPASRREGLAVCDVAGWVDRPTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
|||||
DB 80 GVSFAPASRREGLAVCDVAGWVDRPTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 139
|||||
OY 61 CKADNAEEGPGAGGCGCGVDRRHVNSECKAKOSYVRLTAHAGRGVGRWIRIDTACV 120
|||||
DB 140 CKAESGEGPGVGGCGGVDRRHVNSECKAKOSYVRLTAHAGRGVGRWIRIDTACV 199
|||||
OY 121 CTLISRTGRA 130
|||||
DB 200 CTLISRTGRA 209
|||||

RESULT 3
JH0400
neurotrophin-4 precursor - African clawed frog
C:Species: Xenopus laevis (African clawed frog)
C>Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 16-Jul-1999
C:Accession: JH0400
R:Hallboeek, F.; Ibanez, C.F.; Persson, H.
Neuron 6, 845-858, 1991
A:Title: Evolutionary studies of the nerve growth factor family reveal a novel member at
A:Reference number: JH0400; MUID:91222573; PMID:2025430
A:Accession: JH0400
A:Molecule type: DNA
A:Residues: 1-236 <MAL>
A:Cross-references: GB:230090; NID:9455533; PIDN:CAA82906.1; PID:9455534
C:Comment: This protein belongs to the nerve growth factor family.
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-16/Domain: signal sequence #status predicted <SIG>
F:19-113/Domain: propeptide #status predicted <PRO>
F:114-236/Product: neurotrophin-4 #status predicted <MAT>

```

```

F:106/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 59.5%; Score 415; DB 2; Length 236;
Best Local Similarity 63.0%; Pred. No. 5; Se-33;
Matches 80; Conservative 15; Mismatches 24; Indels 8; Gaps 2;

OY 3 SETPAPASRREGLAVCDVAGWVDRPTAVDLRGREVEVLGEVPAAGSPLRQYFFETRCK 62
|||||
DB 117 SDSVSLSRGELSLCDSVNWVTDKRRVAVDRGRKIVYMSRIGLTG-PLKQYFFETRKN 175
|||||
OY 63 ADNAEEGPGAGGCGCGVDRRHVNSECKAKOSYVRLTAHAGRGVGRWIRIDTACVCT 122
|||||
DB 176 PS-----GSTTRCGRGVDKRWISSECKAKOSYVRLTAHAGRGVGRWIRIDTACVCT 228
|||||
OY 123 LLSRTGR 129
|||||
DB 229 LLSRTGR 235
|||||

RESULT 4
C40304
neurotrophin-3 precursor - human
N:Alternate names: nerve growth factor 2; NGF-2
C:Species: Homo sapiens (man)
C>Date: 03-Apr-1992 #sequence_revision 30-Sep-1993 #text_change 16-Jul-1999
C:Accession: A36208; JH0141; C40304; S10719; C60536
R:Jones, K.R.; Reichardt, L.F.
Proc. Natl. Acad. Sci. U.S.A. 87, 8060-8064, 1990
A:Title: Molecular cloning of a human gene that is a member of the nerve growth facto
A:Reference number: A36208; MUID:91045937; PMID:2236018
A:Accession: A36208
A:Molecule type: DNA
A:Residues: 1-257 <JON>
A:Cross-references: GB:M47763; NID:9189300; PIDN:AAA59953.1; PID:9189301
R:Rosenthal, A.; Goeddel, D.V.; Nguyen, T.; Lewis, M.; Shih, A.; Laramee, G.R.; Nikol
Neuron 4, 767-773, 1990
A:Title: Primary structure and biological activity of a novel human neurotrophic fact
A:Reference number: JH0141; MUID:90262727; PMID:2344409
A:Accession: JH0141
A:Molecule type: DNA
A:Residues: 1-257 <ROS>
R:Malsonpierre, P.C.; Le Beau, M.M.; Esplinoza III, R.; Ip, N.Y.; Belluscio, L.; de la
Genomics 10, 558-568, 1991
A:Title: Human and rat brain-derived neurotrophic factor and neurotrophin-3: gene str
A:Reference number: A40304; MUID:91365361; PMID:1889806
A:Accession: C40304
A:Molecule type: DNA
A:Residues: 1-257 <MAL>
A:Cross-references: GB:M61180; NID:9189302; PIDN:AAA63231.1; PID:9189303
R:Kishino, Y.; Yoshimura, K.; Nakahama, K.
FEBS Lett. 266, 187-191, 1990
A:Title: Cloning and expression of a cDNA encoding a novel human neurotrophic factor.
A:Reference number: S10719; MUID:90306351; PMID:2365067
A:Accession: S10719
A:Molecule type: mRNA
A:Residues: 1-257 <KAT>
A:Cross-references: GB:X53655; NID:9287794; PIDN:CAA37703.1; PID:9287795
R:Yanopoulos, G.D.; Malsonpierre, P.C.; Ip, N.Y.; Aldrich, T.H.; Belluscio, L.; Boul
Cold Spring Harb. Symp. Quant. Biol. 55, 371-379, 1990
A:Title: Neurotrophic factors, their receptors, and the signal transduction pathways
A:Reference number: A60536; MUID:92111157; PMID:1966766
A:Accession: C60536
A:Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 1-73, 'Q', '75-77', 'R', '79-108', 'T', '110-257 <XAN>
C:Genetics:
A:Gene: GDNF; NTF3
A:Cross-references: GDB:125917; OMIM:162660
A:Map position: 12p13-12p13
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-16/Domain: signal sequence #status predicted <SIG>
F:19-138/Domain: propeptide #status predicted <PRO>

```


C:Accession: B60536; B40304; S24955; I60275; I60545
R:Yancopoulos, G.D.; Maisongierre, P.C.; Ip, N.Y.; Aldrich, T.H.; Belluscio, L.; Boulton
Cold Spring Harb. Symp. Quant. Biol. 55, 371-379, 1990
A:Title: Neurotrophic factors, their receptors, and the signal transduction pathways the
A:Reference number: A60536; MUID:92111157; PMID:1966766
A:Accession: B60536
A:Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 1-249 <N>
R:Maisongierre, P.C.; Le Beau, M.M.; Espinosa III, R.; Ip, N.Y.; Belluscio, L.; de la M
Genomics 10, 558-568, 1991
A:Title: Human and rat brain-derived neurotrophic factor and neurotrophin-3: gene struct
A:Reference number: A40304; MUID:91365361; PMID:1889806
A:Accession: B40304
A:Molecule type: mRNA
A:Residues: 1-249 <N>
A:Cross-references: GB:I61175; NID:g203122; PIDN:AA16841.1; PID:g203123
R:Metzls, M.
submitted to the EMBL Data Library, June 1992
A:Reference number: S24955
A:Accession: S24955
A:Molecule type: mRNA
A:Residues: 8-249 <MET>
A:Cross-references: EMBL:X67108; NID:g55820; PIDN:CAA47481.1; PID:g55821
R:Ohara, O.; Gahara, Y.; Teraoka, H.; Kitanura, T.
Gene 121, 383-386, 1992
A:Title: A rat brain-derived neurotrophic factor-encoding gene generates multiple trans
A:Reference number: I60275; MUID:93077058; PMID:1446835
A:Accession: I60275
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-249 <RES>
A:Cross-references: GB:D10938; NID:g220996; PIDN:BA01732.1; PID:g286257
R:Timusk, T.; Palm, K.; Metzls, M.; Reintam, T.; Paalme, V.; Saarma, M.; Persson, H.
Neuron 10, 475-489, 1993
A:Title: Multiple promoters direct tissue-specific expression of the rat BDNF gene.
A:Reference number: I60545; MUID:93213504; PMID:8461137
A:Accession: I60545
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 8-249 <RES>
A:Cross-references: EMBL:X67108; NID:g55820; PIDN:CAA47481.1; PID:g55821
C:Genetics:
A:Gene: BDNF
C:Superfamily: nerve growth factor beta chain
Query Match 49.4%; Score 345; DB 2; Length 249;
Best Local Similarity 53.7%; Pred. No. 3,4e-26;
Matches 66; Conservative 22; Mismatches 25; Indels 10; Gaps 3;
OY 9 SRGELAVCAVSGWVT--DRTAVDLRGREVEVLGEVPAAGSPLROYFETRCADNA 66
:|||||:|||||: ||| :|||||: | :|||: | :|||||: |||
DB 135 ARGELSYCDISSEWVADKRTAVDMGCTVYLEKVPVSKGQ-LKQYFETRCNP--- 190
OY 67 EEGPGAGGGCGRVDRRHWSSECKAKOSYVRALTAHAGVGRWIRIDPACVCTLLSR 126
:|||||:|||||: ||| :|||||: | :|||: | :|||||: |||
DB 191 ---MGYTKECGCRGIDKRHMNSQCRITQSYVRALTMDSKKRIQWRFIRIDPACVCTLLIK 246
OY 127 TGR 129
:||
DB 247 RGR 249
RESULT 11
A30361
brain-derived neurotrophic factor precursor - pig
C:Species: Sus scrofa domestica (domestic pig)
C>Date: 18-Oct-1989 #sequence_revision 18-Oct-1989 #text_change 16-Jul-1999
C:Accession: A30361
R:Leibrock, J.; Lottspeich, F.; Hohn, A.; Hofer, M.; Hengeler, B.; Maslowski, P.; Thoe
Nature 341, 149-152, 1989
A:Title: Molecular cloning and expression of brain-derived neurotrophic factor.
A:Reference number: A30361; MUID:89384868; PMID:2779653

A:Accession: A30361
A:Molecule type: mRNA
A:Residues: 1-252 <LEI>
A:Cross-references: GB:X16713; NID:g1903; PIDN:CAA34685.1; PID:g1904
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein; growth factor
F:126/Binding site: carbohydrate (Asn) (covalent) #status predicted
Query Match 49.4%; Score 345; DB 2; Length 252;
Best Local Similarity 53.7%; Pred. No. 3,4e-26;
Matches 66; Conservative 22; Mismatches 25; Indels 10; Gaps 3;
OY 9 SRGELAVCAVSGWVT--DRTAVDLRGREVEVLGEVPAAGSPLROYFETRCADNA 66
:|||||:|||||: ||| :|||||: | :|||: | :|||||: |||
DB 138 ARGELSYCDISSEWVADKRTAVDMGCTVYLEKVPVSKGQ-LKQYFETRCNP--- 193
OY 67 EEGPGAGGGCGRVDRRHWSSECKAKOSYVRALTAHAGVGRWIRIDPACVCTLLSR 126
:|||||:|||||: ||| :|||||: | :|||: | :|||||: |||
DB 194 ---MGYTKECGCRGIDKRHMNSQCRITQSYVRALTMDSKKRIQWRFIRIDPACVCTLLIK 249
OY 127 TGR 129
:||
DB 250 RGR 252
RESULT 12
JC6183
brain-derived neurotrophic factor precursor - bovine
C:Species: Bos primigenius taurus (cattle)
C>Date: 02-Sep-1997 #sequence_revision 05-Sep-1997 #text_change 20-Jun-2000
C:Accession: JC6183
R:Arab, S.F.; Krohn, K.; Lachmund, A.; Unsicker, K.; Suter-Crazzolara, C.
Gene 185, 95-98, 1997
A:Title: The gene encoding bovine brain-derived neurotrophic factor (BDNF).
A:Reference number: JC6183; MUID:97186702; PMID:9034318
A:Accession: JC6183
A:Molecule type: mRNA
A:Residues: 1-248 <N>
A:Cross-references: EMBL:X97914; NID:g1668709; PIDN:CAA66488.1; PID:g1668710
A:Experimental source: adrenal glands
C:Comment: This gene plays the essential roles in the regulation of neuron survival
dopaminergic, glutamatergic, and cholinergic neurons, and it is effective in the tree
C:Superfamily: nerve growth factor beta chain
C:Keywords: neurotrophic factor
F:1-16/Domain: signal sequence #status predicted <SIG>
F:17-248/Product: brain-derived neurotrophic factor #status predicted <MAT>
F:198-211/Region: nerve growth factor signature
Query Match 49.0%; Score 342; DB 2; Length 248;
Best Local Similarity 53.7%; Pred. No. 6,6e-26;
Matches 66; Conservative 21; Mismatches 26; Indels 10; Gaps 3;
OY 9 SRGELAVCAVSGWVT--DRTAVDLRGREVEVLGEVPAAGSPLROYFETRCADNA 66
:|||||:|||||: ||| :|||||: | :|||: | :|||||: |||
DB 134 ARGELSYCDISSEWVADKRTAVDMGCTVYLEKVPVSKGQ-LKQYFETRCNP--- 189
OY 67 EEGPGAGGGCGRVDRRHWSSECKAKOSYVRALTAHAGVGRWIRIDPACVCTLLSR 126
:|||||:|||||: ||| :|||||: | :|||: | :|||||: |||
DB 190 ---MGYTKECGCRGIDKRHMNSQCRITQSYVRALTMDSKKRIQWRFIRIDPACVCTLLIK 245
OY 127 TGR 129
:||
DB 246 RGR 248
RESULT 13
I51708
brain-derived neurotrophic factor precursor - southern platyfish
C:Species: Xiphophorus maculatus (southern platyfish)
C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: I51708; S26673
R:Gotz, R.; Raulf, F.; Scharf, M.
J. Neurochem. 59, 432-442, 1992

```

A>Title: Brain-derived neurotrophic factor(s) more highly conserved in structure and
A:Reference number: I51708; MUID:92333301; PMID:1629719
A:Accession: I51708
A>Status: translated from GB/EMBL/DDBT
A:Molecule type: DNA
A:Residues: 1-269 <GOT>
A:Cross-references: EMBL:X59942; NID:g65275; PIDN:CAA42567.1; PID:g65276
C:Genetics:
A:Gene: BDNF
C:Superfamily: nerve growth factor beta chain
C:Keywords: glycoprotein
F:1-18/Domain: signal sequence #status predicted <SIG>
F:15-150/Product: propeptide #status predicted <PRO>
F:151-269/Product: brain-derived neurotrophic factor #status predicted <MAT>
F:143/Binding site: carbohydrate (asn) (covalent) #status predicted
F:163-230,208-259,218-261/disulfide bonds: #status predicted

Query Match      48.1%; Score 340; DB 2; Length 269;
Best Local Similarity 51.2%; Pred. No. 1.1e-25;
Matches 63; Conservative 25; Mismatches 25; Indels 10; Gaps 3;

Oy   9 SRRGLAVCDNAVSGWVT--DRRTAVDLRGREVEVLGEVPAAGGSPLROYFFETRCKADNA 66
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
Db   13S SRRGLSYVCDSISQWTVAVDKTAIDMSGQYTVMEKVPVPGQ-LKQFYETKCNP--- 210
                                     :|||:||||:||||:||||:||||:||||:
Oy   67 EEGGPAGGGCGRCGVDRRHWSSECKAKOSYVRALTAHAQGRVMWRIRIDTACVCTLSR 126
    | |||::||:|:|: |||||:::|||:||||:||||:||||:||||:||||:
Db   211 ---MGYTKDCGRGIDKRHHYTSQCRTQS YVRALTMDSKRKIGMRFIRIDTSCVCTLFIK 266
                                |||:||||:||||:||||:||||:||||:
Oy   127 TGR 129
    ||
Db   267 RGR 269

RESULT 14
184765
brain-derived neurotrophic factor - rhesus macaque (fragment)
C:Species: Macaca mulatta (rhesus macaque)
C>Date: 04-Sep-1997 #sequence_revision 13-Mar-1998 #text_change 16-Jul-1999
C:Accession: I84765
R:Iackson, P.J.; Townner, M.D.; Huntsman, M.M.
FEBS Lett. 285, 260-264, 1991
A>Title: Comparison of mammalian, chicken and Xenopus brain-derived neurotrophic factor
A:Reference number: I50606; MUID:91309745; PMID:1906813
A:Accession: I84765
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-114 <ISA>
A:Cross-references: EMBL:X61475; NID:g288317; PIDN:CAA43703.1; PID:g288318
C:Superfamily: nerve growth factor beta chain
C:Keywords: brain; growth factor

Query Match      48.1%; Score 336; DB 2; Length 114;
Best Local Similarity 54.7%; Pred. No. 1.2e-25;
Matches 64; Conservative 21; Mismatches 22; Indels 10; Gaps 3;

Oy   9 SRRGLAVCDNAVSGWVT--DRRTAVDLRGREVEVLGEVPAAGGSPLROYFFETRCKADNA 66
    |||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
Db   6 ARRGELSYVCDSISEWNTAADKTATVADMSSGTIVLEKYVSKGQ-LKQFYETKCNP--- 61
                                     :|||:||||:||||:||||:||||:||||:
Oy   67 EEGGPAGGGCGRCGVDRRHWSSECKAKOSYVRALTAHAQGRVMWRIRIDTACVCTL 123
    | ||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
    | ||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
Db   62 ----MGYTKEGCRGIDKRHMNSQCRTQS YVRALTMDSKRKIGMRFIRIDTSCVCTL 114,
                                     :|||:||||:||||:||||:||||:||||:

RESULT 15
150606
brain-derived neurotrophic factor - chicken (fragment)
C:Species: Gallus gallus (chicken)
C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: I50606
R:Iackson, P.J.; Townner, M.D.; Huntsman, M.M.
FEBS Lett. 285, 260-264, 1991

```

```

A:Title: Comparison of mammalian, chicken and Xenopus brain-derived neurotrophic fac
A:Reference number: 150606; MUID:91309745; PMID:1906813
A:Accession: 150606
A:Status: preliminary; translated from GB/EMBL/DBD
A:Molecule type: mRNA
A:Residues: 1-114 <15>
A:Cross-references: EMBL:X61476; NID:9288305; PIDN:CMA43704.1; PID:9288306
C:Superfamily: nerve growth factor beta chain

Query Match          46.8%; Score 327; DB 2; Length 114;
Best Local Similarity 54.7%; Pred. No. 8.9e-25;
Matches 64; Conservative 18; Mismatches 25; Indels 10; Gaps 3;

Qy 9 SRRGELAVCDAAVSGWTT--DRRTAVLDLGRREVEVLGEVPAAAGSPLKQYFEETCKADNA 66
   :|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 6 ARRGELAVCDSTSEWVTAAEKKTAVDMGAGATVLEKVPVPGQ-LKQYFETKCP--- 61

Qy 67 EERGAGGAGGCGRCGVDRKRHWSECKAKOSYVPALALAHAGRGGWMIITDPACVCTL 123
   |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 62 ---KGYTRGCGRGIDKRHMNSQCRFTQSYVPALITMDNKKRIVGMPFRIRIDYSCVCTL 114

Search completed: December 2, 2002, 15:14:01
Job time : 11.3634 secs

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Search completed: December 2, 2002, 15:14:01
Job time : 11.3634 secs
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GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:43 ; Search time 5.33411 Seconds

(Without alignments)
1010.837 Million cell updates/sec

Title: US-10-072-681-6

Perfect score: 698

Sequence: 1 GVSETAPASRRELAVCAV.....RWIRIDTACVCTLLSRTGRA 130

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Database: SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	689	98.7	210	NT5_HUMAN	P34130 homo sapien
2	663	95.0	209	NT5_RAT	P34131 ratius norv
3	501.5	71.8	186	NT6G_HUMAN	P34134 homo sapien
4	494.5	70.8	257	NT6A_HUMAN	P34132 homo sapien
5	478.5	68.6	257	NT6B_HUMAN	P34133 homo sapien
6	415	59.5	236	NT4_XENLA	P24737 xenopus lae
7	358	51.3	257	NT3_CHICK	P25433 gallus gall
8	358	51.3	257	NT3_HUMAN	P20783 homo sapien
9	358	51.3	258	NT3_MOUSE	P20181 mus musculu
10	358	51.3	258	NT3_MOUSE	P18280 rattus norv
11	355	51.0	257	NT3_FELCA	O91862 felis silve
12	355	50.9	260	NT3_XENLA	P25435 xenopus lae
13	346	49.6	255	BDNF_CAVPO	O70183 cavia porce
14	345	49.4	247	BDNF_HUMAN	P23560 homo sapien
15	345	49.4	247	BDNF_PROLO	O18755 procyon lot
16	345	49.4	247	BDNF_URSA	O18752 ursus arcto
17	345	49.4	247	BDNF_MOUSE	O18753 mus musculu
18	345	49.4	249	BDNF_MOUSE	P21237 mus musculu
19	345	49.4	249	BDNF_MOUSE	P21237 mus musculu
20	345	49.4	252	BDNF_PIG	P23363 rattus norv
21	344	49.3	247	BDNF_FELCA	O18632 felis silve
22	342	49.0	248	BDNF_BOVIN	O95106 bos taurus
23	340	48.7	269	BDNF_XIPMA	O02193 xiphophorus
24	336	48.1	114	BDNF_MACMU	O06225 macaca mula
25	336	48.1	246	BDNF_CHICK	P25428 gallus gall
26	335	48.0	270	BDNF_CYPCA	O90322 cyprinus lae
27	315	45.1	114	BDNF_XENLA	P25432 xenopus lae
28	314.5	45.1	231	NGF_BOVIN	P13600 bos taurus
29	308.5	44.2	241	NGF_RAT	P25427 rattus norv
30	307.5	44.1	229	NGF_PIG	O29074 sus scrofa
31	305.5	43.8	241	NGF_MOUSE	P01139 mus musculu
32	305.5	43.8	241	NGF_PRAWA	P20675 praomys nat
33	302.5	43.3	243	NGF_CHICK	P05200 gallus gall

34	297.5	42.6	241	1	NGF_HUMAN	P01138 homo sapien
35	295.5	42.3	241	1	NGF_CAVPO	P19093 cavia porce
36	290	41.5	231	1	NGF_XENLA	P21617 xenopus lae
37	269.5	38.6	243	1	NGF_BUNMU	P34128 bungarus mu
38	264.5	37.9	117	1	NGF_DABRR	P30894 dabola russ
39	262	37.5	116	1	NGF_XENLA	P01140 naja naja (
40	252	36.1	116	1	NGF_NAUT	P21377 naja atra (
41	241.5	34.6	194	1	NGF_XIPMA	P34129 xiphophorus
42	235	33.7	140	1	NT7_CYPCA	O93474 cyprinus ca
43	228	32.7	233	1	NT7_BRARE	O73797 brachydanio
44	153	21.9	43	1	NT4_VIPLE	P25436 vipera lebe
45	119	17.0	43	1	BDNF_RAACL	P25430 raja clavat

ALIGNMENTS

RESULT 1
NT5_HUMAN STANDARD; PRT; 210 AA.
AC P34130;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Neurotrophin-5 precursor (NT-5) (Neurotrophin-4)
DE (NT-4) (Neurotrophic factor 4).
GN NT5 OR NT5F.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominoidea; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP TISSUE=Prostate;
RC MEDLINE=92212967; PubMed=1313578;
RA Ip N.Y., Ibanez C.F., Nye S.H., McClain J., Jones P.F., Gles D.R.,
RA Belluscio L., Le Beau M.M., Espinosa R. III, Squinto S.P., Persson H.,
RA Yancopoulos G.D.;
RT "Mammalian neurotrophin-4: structure, chromosomal localization,
RT tissue distribution, and receptor specificity";
RT Proc. Natl. Acad. Sci. U.S.A. 89:3060-3064(1992).
[2]
SEQUENCE FROM N.A.
RX MEDLINE=92075279; PubMed=1742028;
RA Berkensteiner L.R., Winslow J.W., Kaplan D.R., Nikolic K., Goeddel D.V.,
RA "Neurotrophin-5: a novel neurotrophic factor that activates trk and
RA trkB";
RA Neuron 7:857-866(1991).
[3]
X-RAY CRYSTALLOGRAPHY (2.75 ANGSTROMS).
RX MEDLINE=20095835; PubMed=10631974;
RA Robinson R.C., Radziejewski C., Spraggon G., Greenwald J.,
RA Kostuna M.R., Bartlick L.D., Stuart D.I., Choe S., Jones E.Y.;
RT "The structures of the neurotrophin 4 homodimer and the brain-derived
RT neurotrophic factor/neurotrophin 4 heterodimer reveal a common Trk-
RT binding site";
RL Protein Sci. 8:2589-2597(1999).
-1- FUNCTION: TARGET-DERIVED SURVIVAL FACTOR FOR PERIPHERAL SENSORY
CC SYMPATHETIC NEURONS.
CC -1- TISSUE SPECIFICITY: HIGHEST LEVELS IN PROSTATE, LOWER LEVELS
CC IN THYMUS, PLACENTA, AND SKELETAL MUSCLE. EXPRESSED IN EMBRYONIC
CC AND ADULT TISSUES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC -----

DR EMBL; M86528; AAA60154.1; -.
DR PIR; JH0503; JH0503.
DR PIR; A42687; A42687.
DR PDB; 1B8M; 09-FEB-99.
DR PDB; 1B98; 26-FEB-99.
DR Genew; HGNC:8024; NTF5.
DR MIM; 162662; -.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal; 3D-structure.
FT SIGNAL 1 24 POTENTIAL.
FT PROPEP 25 80
FT CHAIN 81 210 NEUROTROPHIN-5.
FT DISULFID 97 170
FT DISULFID 141 199
FT DISULFID 158 201
FT CARBOHD 76 76
SQ SEQUENCE 210 AA; 22426 MW; D6C6A30195E139AD CRC64;

Query Match 98.7%; Score 689; DB 1; Length 210;
Best Local Similarity 99.2%; Pred. No. 5,5e-60;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 GVSETPASRREGLAVCDVSGVTDRTAVDLRGREVEVLGEVPAAGSPRLROYFEETR 60
DB 81 GVSETPASRREGLAVCDVSGVTDRTAVDLRGREVEVLGEVPAAGSPRLROYFEETR 140
OY 61 CKAADNAEEGPGAGGCGGCGVDRHWSSECKAKOSYVRLTAHAOGVGMWIRIDTACY 120
DB 141 CKAADNAEEGPGAGGCGGCGVDRHWSSECKAKOSYVRLTAHAOGVGMWIRIDTACY 200
OY 121 CTLSTRGRA 130
DB 201 CTLSTRGRA 210

RESULT 2
NT5_RAT STANDARD; PRT; 209 AA.
AC P34131;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Neurotrophin-5 precursor (NT-5) (Neurotrophic factor 5) (Neurotrophin-4)
DE (NT-4) (Neurotrophic factor 4).
GN NTF5 OR NTF4 OR NT4.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92212967; PubMed=1313578;
RA IP N.Y., Ibanez C.F., Nye S.H., McClain J., Jones P.F., Gies D.R.,
RA Belluscio L., Le Beau M.M., Espinosa R. III, Squitaco S.P., Persson H.,
RA Yancopoulos G.D.;
RT "Mammalian neurotrophin-4: structure, chromosomal localization,
RT tissue distribution, and receptor specificity".
RL Proc. Natl. Acad. Sci. U.S.A. 89:3060-3064(1992).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=92075279; PubMed=1742028;
RA Berkemeier L.R., Winslow J.W., Kaplan D.R., Nikolic K., Goeddel D.V.,
RA Rosenthal A.;
RT "Neurotrophin-5: a novel neurotrophic factor that activates trk and
RT trkB".
RL Neuron 7:857-866(1991).
CC -!- FUNCTION: COULD SERVE AS A TARGET-DERIVED TROPHIC FACTOR FOR

CC SENSORY AND SYMPATHETIC NEURONS.
CC -!- TISSUE SPECIFICITY: EXPRESSED IN THYMUS, MUSCLE, OVARY, BRAIN,
CC HEART, STOMACH AND KIDNEY. EXPRESSED IN BOTH EMBRYO AND ADULT
CC TISSUES.
CC -!- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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DR EMBL; M86742; AAA41728.1; -.
DR EMBL; S69323; AAB20548.1; -.
DR PIR; JH0504; JH0504.
DR PIR; B42687; B42687.
DR HSPD; P34130; 1B8M.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 21 POTENTIAL.
FT PROPEP 22 79
FT CHAIN 80 209 NEUROTROPHIN-5.
FT DISULFID 96 169 BY SIMILARITY.
FT DISULFID 140 198 BY SIMILARITY.
FT DISULFID 157 200 BY SIMILARITY.
FT CARBOHD 75 75 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CONFLICT 177 177 R -> P (IN REF. 2).
SQ SEQUENCE 209 AA; 22332 MW; DF5112C05C5DB85 CRC64;

Query Match 95.0%; Score 663; DB 1; Length 209;
Best Local Similarity 94.6%; Pred. No. 1.8e-57;
Matches 123; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

OY 1 GVSETPASRREGLAVCDVSGVTDRTAVDLRGREVEVLGEVPAAGSPRLROYFEETR 60
DB 80 GVSETPASRREGLAVCDVSGVTDRTAVDLRGREVEVLGEVPAAGSPRLROYFEETR 139
OY 61 CKAADNAEEGPGAGGCGGCGVDRHWSSECKAKOSYVRLTAHAOGVGMWIRIDTACY 120
DB 140 CKAADNAEEGPGAGGCGGCGVDRHWSSECKAKOSYVRLTAHAOGVGMWIRIDTACY 199
OY 121 CTLSTRGRA 130
DB 200 CTLSTRGRA 209

RESULT 3
NT6G_HUMAN STANDARD; PRT; 186 AA.
ID NT6G_HUMAN
AC P34134;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Neurotrophin-6 gamma (NT-6 gamma) (Fragment).
GN NT6G.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92358359; PubMed=1496419;
RA Berkemeier L.R., Oerzelik T., Francke U., Rosenthal A.;
RT "Human chromosome 19 contains the neurotrophin-5 gene locus and three

```
RT related genes that may encode novel acidic neurotrophins."
RL Somet. Cell Mol. Genet. 18:233-245(1992).
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES (BY
CC SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: S41541; AAB22781.1; -.
DR HSSP: P34130; 1B98.
DR Genew: HGNC:8027; NTF6G.
DR MIM: 604023; -.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF_1.
DR ProDom: PD002052; NGF_1.
DR SMART: SM00140; NGF_1.
DR PROSITE: PS00248; NGF_1; PARTIAL.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor.
KW NON_TER
FT DISULFID 1 1
FT CARBOHYD 72 146
FT SEQUENCE 186 AA; 19553 MW; B584396F5AA4981C CRC64;
SQ
Query Match 71.8%; Score 501.5; DB 1; Length 186;
Best Local Similarity 77.1%; Pred. No. 7.5e-42;
Matches 101; Conservative 6; Mismatches 23; Indels 1; Gaps 1;
QY 1 GVSETAPASRGELAVCDVAVSWTDRRTAVDLRGREVEVLGEVPAAGSPRLQYFEETR 60
DB 56 GVSDTSPASHQGLAVCDVAVSWTDRRTAVDLVLEVEVLGEVPAAGSSSLRQHFEVTC 115
QY 61 CKADNNEEGPGAGGCGRCRV-DRRHVSECKAKQSYVRLTLTAAGRCVGMRTIRIDTAC 119
DB 116 FKADNNEEGPGVGGGAAGVWGTGHWVSECKAKQSYVRLTLTAAGRCVGMRTIRIDTAC 175
QY 120 VCTLLSRTGRA 130
DB 176 VCTLLSRTGRA 186
RESULT 4
NTF6_HUMAN STANDARD; PRT; 257 AA.
ID NTF6_HUMAN
AC P34132;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Neurotrophin-6 alpha (NT-6 alpha) (Fragment).
GN NTF6A.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Fetal;
RX MEDLINE=92358359; PubMed=1496419;
RA Berkemeier L.R., Oezcelik T., Francke U., Rosenthal A.;
RT "Human chromosome 19 contains the neurotrophin-5 gene locus and three
RT related genes that may encode novel acidic neurotrophins.";
RL Somet. Cell Mol. Genet. 18:233-245(1992).
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES (BY
CC SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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CC -----
DR EMBL: S41522; AAB22779.1; -.
DR HSSP: P34130; 1B98.
DR Genew: HGNC:8025; NTF6A.
DR MIM: 604021; -.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF_1.
DR ProDom: PD002052; NGF_1.
DR SMART: SM00140; NGF_1.
DR PROSITE: PS00248; NGF_1; PARTIAL.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Polymorphism.
KW NON_TER
FT DISULFID 143 217
FT CARBOHYD 122 122
FT VARIANT 186 186
FT VARIANT 242 242
FT SEQUENCE 257 AA; 27246 MW; 74AE6C038D78A3BB CRC64;
SQ
Query Match 70.8%; Score 494.5; DB 1; Length 257;
Best Local Similarity 76.3%; Pred. No. 5e-41;
Matches 100; Conservative 7; Mismatches 23; Indels 1; Gaps 1;
QY 1 GVSETAPASRGELAVCDVAVSWTDRRTAVDLRGREVEVLGEVPAAGSPRLQYFEETR 60
DB 127 GVSDTSPASHQGLAVCDVAVSWTDRRTAVDLVLEVEVLGEVPAAGSSSLRQHFEVTC 186
QY 61 CKADNNEEGPGAGGCGRCRV-DRRHVSECKAKQSYVRLTLTAAGRCVGMRTIRIDTAC 119
DB 187 FKADNNEEGPGVGGGAAGVWGTGHWVSECKAKQSYVRLTLTAAGRCVGMRTIRIDTAC 246
QY 120 VCTLLSRTGRA 130
DB 247 VCTLLSRTGRA 257
RESULT 5
NTF6_HUMAN STANDARD; PRT; 257 AA.
ID NTF6_HUMAN
AC P34133;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Neurotrophin-6 beta (NT-6 beta) (Fragment).
GN NTF6B.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Fetal;
RX MEDLINE=92358359; PubMed=1496419;
RA Berkemeier L.R., Oezcelik T., Francke U., Rosenthal A.;
RT "Human chromosome 19 contains the neurotrophin-5 gene locus and three
RT related genes that may encode novel acidic neurotrophins.";
RL Somet. Cell Mol. Genet. 18:233-245(1992).
CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES (BY
CC SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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DR EMBL: S41540: AAB22780.1; -.
DR HSSP: P34130: 1B98.
DR Genew: HGNC:8026; NTF6B.
DR MIM: 604022; -.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF_1.
DR ProDom: PD002052; NGF_1.
DR SMART: SM00140; NGF_1.
DR PROSITE: PS00248; NGF_1; PARTIAL.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor.
FT NON_TER 1 1
FT DISULFD 143 217 BY SIMILARITY.
FT CARBOHYD 122 122 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 257 AA: 27419 MW: 2EA9320918A505B CRC64;

Query Match 68.6%; Score 478.5; DB 1; Length 257;
Best Local Similarity 73.3%; Pred. No. 1.8e-39;
Matches 96; Conservative 9; Mismatches 25; Indels 1; Gaps 1;

OY 1 GVSETAPASRRCGLAVCDVSGWVTDRTAVDLRGREVEVLGEVPAGGSPLRQFFETR 60
DB 127 GVSPTSPPVSHGELAVCDVAVTWTDPTWTDGLVLEVEVLGEVPAGSSLRQFFETR 186
OY 61 CKADNAEEGGCPAGGGCGRGV-DRRHVWSECKAKOSYVRLTAHAGRGVWIRIDTAC 119
DB 187 FEADSKREGPGVGGCPAGVWVGHWSECKAKOSYGRALTTDAGRVWIRIDTAC 246
OY 120 VCTLSRTGRA 130
DB 247 VCTLSRTGRA 257

RESULT 6
NT4_XENLA STANDARD: PRT: 236 AA.
ID NT4_XENLA
AC P24727;
DT 01-MAR-1992 (Rel. 21, Created)
DT 01-MAR-1992 (Rel. 21, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Neurotrophin-4 precursor (NT-4).
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidoidea; Pipidae;
OC Xenopodinae; Xenopus.
OX NCBI_TaxID=8335;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-Ovary;
RX MEDLINE=91222573; PubMed=2025430;
RA Hallböök F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
CC -1- FUNCTION: NT-4 COULD PLAY A ROLE IN OOCYTESIS AND/OR EARLY EMBRYOGENESIS. NT-4 INTERACTS WITH THE LOW AFFINITY NGF RECEPTOR AND ELICITS NEURITE OUTGROWTH FROM EXPLANTED DORSAL ROOT GANGLIA WITH NO AND LOWER ACTIVITY IN SYMPATHETIC AND NODOSE GANGLIA, RESPECTIVELY.
CC -1- TISSUE SPECIFICITY: OVARY.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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DR EMBL: Z30090; CAA82906.1; -.
DR PIR: JH0400; JH0400.
DR HSSP: P34130: 1B98.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF_1.
DR PRINTS: PR00268; NGF.
DR ProDom: PD002052; NGF_1.
DR SMART: SM00140; NGF_1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
KW Growth factor; Signal.
FT SIGNAL 1 18 POTENTIAL.
FT PROPEP 19 113
FT CHAIN 114 236
FT DISULFD 131 196
FT DISULFD 174 225 BY SIMILARITY.
FT DISULFD 184 227 BY SIMILARITY.
FT CARBOHYD 47 47
FT CARBOHYD 106 106 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 236 AA: 26213 MW: A210F97F2016357D CRC64;

Query Match 59.5%; Score 415; DB 1; Length 236;
Best Local Similarity 63.0%; Pred. No. 2.3e-33;
Matches 80; Conservative 15; Mismatches 24; Indels 8; Gaps 2;

OY 3 SETAPASRRCGLAVCDVSGWVTDRTAVDLRGREVEVLGEVPAGGSPLRQFFETR 62
DB 117 SDSVLSRRGELSVCDSDVNVWVTDKRTAVDDGKLVTVNSEIQTLLG-PLKQFFETR 175
OY 63 ADNAEEGGCPAGGGCGRGVDRRHVWSECKAKOSYVRLTAHAGRGVWIRIDTAC 122
DB 176 PS-----GSTTRCGRCGVDDKRWISECKAKOSYVRLTIDANKLVGNRMIIDTAC 228
OY 123 LLSRTGR 129
DB 229 LLSRTGR 235

RESULT 7
NT3_CHICK STANDARD: PRT: 257 AA.
ID NT3_CHICK
AC P25433;
DT 01-MAY-1992 (Rel. 22, Created)
DT 01-DEC-1992 (Rel. 24, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)
DE (Nerve growth factor 2) (NGF-2).
CN NT3.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=93091238; PubMed=1457809;
RA Malsompliere P., Belluscio L., Conover J.C., Yancopoulos G.D.;
RT "Gene sequences of chicken BDNF and NT-3.";
RL DNA Seq. 3:49-54(1992).
RN [2]
RP SEQUENCE OF 194-236 FROM N.A.
RX MEDLINE=91222573; PubMed=2025430;
RA Hallböök F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
CC -1- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND PROPRIOCEPTIVE SENSORY NEURONS.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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DR EMBL: M83378; AAA68880.1; -
 DR HSP: P20783; 188K.
 DR InterPro: IPR002400; GF_cysknot.
 DR InterPro: IPR002072; NGF.
 DR Pfam: PF00243; NGF_1.
 DR PRINTS: PR00438; GRCYSKNOT.
 DR PRINTS: PR00268; NGF.
 DR ProDom: PD002052; NGF_1.
 DR SMART: SM00140; NGF_1.
 DR PROSITE: PS00248; NGF_1; 1.
 DR PROSITE: PS00270; NGF_2; 1.
 DR Growth factor: signal.
 FT SIGNAL 1 16 POTENTIAL.
 FT PROPEP 17 138
 FT CHAIN 139 257 NEUROTROPHIN-3.
 FT DISULFID 152 217 BY SIMILARITY.
 FT DISULFID 195 246 BY SIMILARITY.
 FT DISULFID 205 248 BY SIMILARITY.
 FT CARBOHYD 131 131 N-LINKED (GLCNAC...) (POTENTIAL).
 SO SQUENCE 257 AA; 29701 MW; EE043BA2A005C1E7 CRC64;

Query Match 51.3%; Score 358; DB 1; Length 257;
 Best Local Similarity 55.4%; Pred. No. 8; 6e-28;
 Matches 67; Conservative 18; Mismatches 28; Indels 8; Gaps 3;

QY 9 SRRELAVCAVSGWYDRTAVLDRGEVVGGEVPAAGSPTRQYFFERCKADNAEE 68
 DB 144 SHREISVCSSESLWVDKSAIDIRGHQVTVLGEI-KTGSPPVKQFFETRC-----E 197
 QY 69 GPGAGCGGCGYDVRHVMVSECKAKOSYVRLTAHAGRVGMVRIIDTACVCTLLSRPTG 128
 DB 198 AKPKV--NGCRGIDDKHNSCKTSQYVRLTSENKKNLVGMWRIRIDTSCVCLSRKIG 255

QY 129 R 129
 DB 256 R 256

RESULT 8
 NT3_HUMAN STANDARD: PRT: 257 AA.
 ID NT3_HUMAN
 AC P20783;
 DT 01-FEB-1991 (Rel. 17, Created)
 DT 01-FEB-1991 (Rel. 17, Last sequence update)
 DT 15-JUN-2002 (Rel. 41, Last annotation update)
 DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)
 DE (Nerve growth factor 2) (NGF-2).
 GN NTF3.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RN SEQUENCE FROM N.A.
 RX MEDLINE=90262727; PubMed=2344409;
 RA Rosenthal A., Goeddel D.V., Nguyen T., Lewis M., Shih A.,
 RA Laramie G.R., Nikolics K., Winslow J.W.;
 RT "Primary structure and biological activity of a novel human
 RT neurotrophic factor";
 RL Neuron 4:767-773(1990).
 RN [2]
 RN SEQUENCE FROM N.A.
 RX MEDLINE=91045937; PubMed=2236018;
 RA Jones K.R., Reichardt L.F.;
 RT "Molecular cloning of a human gene that is a member of the nerve
 RT growth factor family";

RL Proc. Natl. Acad. Sci. U.S.A. 87:8060-8064(1990).
 RN [3]
 RN SEQUENCE FROM N.A.
 RX MEDLINE=90306351; PubMed=2365067;
 RA Kishino Y., Yoshimura K., Nakahama K.;
 RT "Cloning and expression of a cDNA encoding a novel human neurotrophic
 RT factor";
 RL FEBS Lett. 266:187-191(1990).
 RN [4]
 RN SEQUENCE FROM N.A.
 RX MEDLINE=91365361; PubMed=1889806;
 RA Maisongierre P.C., le Beau M.M., Espinosa R. III, IP N.Y.,
 RA Belsucio L., de la Monte S.M., Squinto S., Furth M.E.,
 RA Vancopoulos G.D.;
 RT "Human and rat brain-derived neurotrophic factor and neurotrophin-3:
 RT gene structures, distributions, and chromosomal localizations";
 RL Genomics 10:558-568(1991).
 RN [5]
 RN SEQUENCE OF 194-236 FROM N.A.
 RC TISSUE=Leukocyte;
 RX MEDLINE=91222573; PubMed=2025430;
 RA Hallboeck F., Ibanez C.F., Persson H.;
 RT "Evolutionary studies of the nerve growth factor family reveal a
 RT novel member abundantly expressed in Xenopus ovary";
 RL Neuron 6:845-858(1991).
 RN [6]
 RN X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).
 RX MEDLINE=95217877; PubMed=7703225;
 RA Robinson R.C., Radziejewski C., Stuart D.I., Jones E.Y.;
 RT "Structure of the brain-derived neurotrophic factor/neurotrophin 3
 RT heterodimer";
 RL Biochemistry 34:4139-4146(1995).
 RN [7]
 RN VARIANT GLU-76.
 RX MEDLINE=95251647; PubMed=7733919;
 RA Hattori M., Nanko S.;
 RT "Association of neurotrophin-3 gene variant with severe forms of
 RT schizophrenia";
 RL Biochem. Biophys. Res. Commun. 209:513-518(1995).
 RN [8]
 RN VARIANT GLU-76.
 RX MEDLINE=96253892; PubMed=8925252;
 RA Ariani T., Takekoshi K., Ito K., Hamaguchi H., Toru M.;
 RT "Failure to find associations of the CA repeat polymorphism in the
 RT first intron and the Gly-63/Glu-63 polymorphism of the neurotrophin-3
 RT gene with schizophrenia";
 RL Psychiatr. Genet. 6:13-15(1996).
 CC -1- FUNCTION: SEEMS TO PROMOTE THE SURVIVAL OF VISCERAL AND
 CC PROPRIOCEPTIVE SENSORY NEURONS.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- TISSUE SPECIFICITY: BRAIN AND PERIPHERAL TISSUES.
 CC -1- POLYMORPHISM: Variant Glu-76 (frequently reported as Glu-63) was
 CC thought to be associated with severe forms of schizophrenia. This
 CC does not seem to be the case.
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
 CC
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DR EMBL: X53655; CA37703.1; -
 DR EMBL: M37763; AAA59953.1; -
 DR EMBL: M61180; AAA63231.1; -
 DR PIR: JH0141; JH0141.
 DR PIR: A36208; A36208.
 DR PIR: S10719; S10719.
 DR PIR: C40304; C40304.
 DR PDB: 1BND; 04-APR-96.
 DR PDB: 1B8K; 09-FEB-99.

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DR Genew; HGNC:8023; NTF3.
DR MIM; 162660; -.
DR InterPro; IPR002400; GF_cyskn0t.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00438; GFCSKN0T.
DR PRINTS; PR00268; NGF.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
DR Growth factor; Signal; Polymorphism; 3D-structure.
KW SIGNAL.
FT PROPEP 1 16 POTENTIAL.
FT CHAIN 17 138 NEUTROPHILIN-3.
FT DISULFID 139 257
FT DISULFID 152 217
FT DISULFID 195 246
FT DISULFID 205 248
FT CARBOHYD 131 131 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT VARIANT 76 76 G->E.
SO SEQUENCE 257 AA; 29354 MW; 39A5BB3B28E25E03 CRC64;

Query Match 51.3%; Score 358; DB 1; Length 257;
Best Local Similarity 55.4%; Pred. NO. 8.6e-28;
Matches 67; Conservative 18; Mismatches 28; Indels 8; Gaps 3;

OY 9 SRRGLAVCDVSGWVTRTAVDLRGREVEYLGEVPAAGSGPLRQYFEETRCADNNE 68
DB 144 SHRGYSYCDSSLMTWTKSSAIDIRGHQVYLGRI-KTGNSPVQYQYETRCCK-----E 197
OY 69 GPGGAGGGGRCGVRDRHNVSECKAKQSYVRLTAHAGRGVGRWIRIDPACVCTLLSTG 128
DB 198 ARPVR--NGCRGIDDKHNNQCKTSQTYVRALTSNNKLVGWRWIRIDTSCVCLSRKIG 255
OY 129 R 129
DB 256 R 256

RESULT 9
NT3_MOUSE
ID NT3_MOUSE STANDARD: PRT; 258 AA.
AC P20181;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)
DE (Nerve growth factor 2) (NGF-2).
DE NTF3 OR NTF-3.
DE Mus musculus (Mouse).
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90190865; PubMed=2314473;
RA Hohn A., Leibrock J., Bailey K., Barde Y.-A.;
RT "Identification and characterization of a novel member of the nerve
RT growth factor/brain-derived neurotrophic factor family.";
RL Nature 344:339-341(1990).
CC -1- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND
CC PROPRIOCEPTIVE SENSORY NEURONS.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: BRAIN AND PERIPHERAL TISSUES.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
CC -----
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CC -----
DR EMBL; X53257; CA937348.1; -.
DR PIR; S09155; S09155.
DR HSSP; P20783; 1B8K.
DR MGD; MGI:97380; NTF3.
DR InterPro; IPR002400; GF_cyskn0t.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00438; GFCSKN0T.
DR PRINTS; PR00268; NGF.
DR ProDom; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW SIGNAL.
FT PROPEP 1 16 POTENTIAL.
FT CHAIN 17 139 NEUTROPHILIN-3.
FT DISULFID 140 258 BY SIMILARITY.
FT DISULFID 153 218 BY SIMILARITY.
FT DISULFID 196 247 BY SIMILARITY.
FT DISULFID 206 249 BY SIMILARITY.
FT CARBOHYD 131 131 N-LINKED (GLCNAC. . .) (POTENTIAL).
SO SEQUENCE 258 AA; 29587 MW; 7180D064E8AB6042 CRC64;

Query Match 51.3%; Score 358; DB 1; Length 258;
Best Local Similarity 55.4%; Pred. NO. 8.6e-28;
Matches 67; Conservative 18; Mismatches 28; Indels 8; Gaps 3;

OY 9 SRRGLAVCDVSGWVTRTAVDLRGREVEYLGEVPAAGSGPLRQYFEETRCADNNE 68
DB 145 SHRGYSYCDSSLMTWTKSSAIDIRGHQVYLGRI-KTGNSPVQYQYETRCCK-----E 198
OY 69 GPGGAGGGGRCGVRDRHNVSECKAKQSYVRLTAHAGRGVGRWIRIDPACVCTLLSTG 128
DB 199 ARPVR--NGCRGIDDKHNNQCKTSQTYVRALTSNNKLVGWRWIRIDTSCVCLSRKIG 256
OY 129 R 129
DB 257 R 257

RESULT 10
NT3_RAT
ID NT3_RAT STANDARD: PRT; 258 AA.
AC P18280;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)
DE (Nerve growth factor 2) (NGF-2).
DE NTF3 OR NTF-3.
DE Rattus norvegicus (Rat).
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90319130; PubMed=2164684;
RA Enforos P., Ibanez C.F., Ebdanal T., Olsson L., Persson H.;
RT "Molecular cloning and neurotrophic activities of a protein with
RT structural similarities to nerve growth factor: developmental and
RT topographical expression in the brain.";
RL Proc. Natl. Acad. Sci. U.S.A. 87:5454-5458(1990).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=90208301; PubMed=2321006;
RA Maisompierre P.C., Belluscio L., Squinto S., Ip N.Y., Furch M.E.,
RA Lindsay R.M., Yancopoulos G.D.;
RT "Neurotrophin-3: a neurotrophic factor related to NGF and BDNF.";
RL Science 247:1446-1451(1990).
RN [3]
RP SEQUENCE FROM N.A.
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ID	NT3_FELICA	STANDARD:	PRT:	257 AA.
AC	Q9Y8T2;			
DT	30-MAY-2000 (Rel. 39, Created)			
DT	30-MAY-2000 (Rel. 39, Last sequence update)			
DT	16-OCT-2001 (Rel. 40, Last annotation update)			
DE	Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF)			
DE	(Nerve growth factor 2) (NGF-2).			
CN	NTF3.			
OS	Felis silvestris catus (Cat).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.			
OX	NCBI_TaxID=9685;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RX	MEDLINE=20211727; PubMed=10745216;			
RA	Lein E.S., Hohn A., Shatz C.J.;			
RT	"Dynamic regulation of BDNF and NT-3 expression during visual system development";			
RL	J. Comp. Neurol. 420:1-18(2000).			
CC	-1- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND PROPRIOCEPTIVE SENSORY NEURONS (BY SIMILARITY).			
CC	-1- SUBCELLULAR LOCATION: Secreted.			
CC	-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.			
CC	-----			
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CC	-----			
CC	EMBL; AF192538; AAF03424.1; -			
DR	HSSP; P20783.1BRK.			
DR	InterPro; IPR002072; NGF.			
DR	Pfam; PF00243; NGF_1.			
DR	PRINTS; PR00268; NGF.			
DR	PRODom; PD002052; NGF; 1.			
DR	SMART; SM00140; NGF; 1.			
DR	PROSITE; PS00248; NGF_1; 1.			
DR	PROSITE; PS0270; NGF_2; 1.			
KW	Growth factor; Signal			
FT	SIGNAL	1	16	POTENTIAL.
FT	PROPEP	17	136	BY SIMILARITY.
FT	CHAIN	139	257	NEUROTROPHIN-3.
FT	DISULFID	152	217	BY SIMILARITY.
FT	DISULFID	195	246	BY SIMILARITY.
FT	DISULFID	205	248	BY SIMILARITY.
FT	CARBOHYD	131	131	N-LINKED (GLCNAC...) (POTENTIAL).
SO	SEQUENCE	257 AA;	29403 MW;	EB53FE359C5113E4 CRC64;
	Query Match	51.0%;	Score 356;	DB 1; Length 257;
	Best Local Similarity	54.5%;	Pred. No. 1.3e-27;	
	Matches	66;	Conservative 20;	Mismatches 27; Indels 8; Gaps 3;
OY	9 SRSGCLAVCAVSGWYTDRTAVVDLRGEVEYLGEVPAGSGPLRQVFETFRCKADNAEE	68		
Db	144 SHRGYSCLDESSELMWTDKSSAIDIRGHQVTVLGEI-KSGNSPVQYEFETRCK----	E 197		
OY	69 GGPGGCGGCGGVDRHNVSECKANQSIVRALTLHAQGRCVGMRNRITDTCACVTLLSTRG	128		
Db	198 ARPYK--NGCGRIDKKHHNSCKTSQTIYVALTSENKNLVGMRIRIDTSCVALSKRIG	255		
OY	129 R 129			
Db	256 R 256			
RESULT 12				
NT3_XENLA	STANDARD:	PRT:	260 AA.	
NT3_XENLA	P25435;			
AC	01-MAY-1992 (Rel. 22, Created)			

DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Neurotrophin-3 precursor (NT-3) (Neurotrophic factor) (HDNF) (Nerve
DE growth factor 2) (NGF-2).
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipiloidea; Pipidae;
OC Xenopodinae; Xenopus.
OX NCBI_TaxID=8355;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RX MEDLINE=97252639; PubMed=9096131;
RA Xie K., Wang T., Olafsson P., Mizuno K., Lu B.;
RT "Activity-dependent expression of NT-3 in muscle cells in culture:
RT implications in the development of neuromuscular junctions.";
RL J. Neurosci. 17:2947-2958(1997).
RN [2]
RP SEQUENCE OF 197-217 FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=9122573; PubMed=2025430;
RA Hallboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary.";
RL Neuron 6:845-858(1991).
CC -1- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND
CC PROPRIOCEPTIVE SENSORY NEURONS.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@sib-sib.ch).

DR EMBL: U27576; AAB17723.1; .
DR HSSP: P20783; 188K.
DR InterPro: IPR002400; GF_cysknct.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00438; GFCSKNCT.
DR PRINTS: PR00268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW SIGNAL.
FT SIGNAL 1 16
FT PROPEP 17 141
FT CHAIN 142 260
FT DISULFD 155 220
FT DISULFD 158 249
FT DISULFD 208 251
FT CAROHD 134 134
SQ SEQUENCE 260 AA; 30022 MW; FFB8507A5EA93CC5 CRC64;

Query Match 50.9%; Score 355; DB 1; Length 260;
Best Local Similarity 55.0%; Pred. No. 1.7e-27;
Matches 66; Conservative 18; Mismatches 28; Indels 8; Gaps 3;

QY 11 RGLAVCAVDAVSGWVTDRTAVDLRGREVLGEVPAAGSPLRYFETFRCKADNAEEGG 70
DB 149 RGEYSVCDSESLMTVDKMAIDIRGHQVTVLGEI-KTGNSPVQYFETFRCK-----EAR 202

QY 71 PGAGGGCGCGVDRRHVSECKAKOSYVRLTAHAQGRVGRIRIDTACVCTLLSTRGRA 130
DB 203 PVK--NGCRGIDDKHNSQCKTSQTVVRLTSENKRMVGRWIRIDTSCVCAALSRIGRS 260

RESULT 13

BDNF-CAVPO
ID BDNF-CAVPO STANDARD; PRT; 255 AA.
AC 070183;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Hartley white; TISSUE=Liver;
RA Inoue M., Nakayama C., Noguchi H.;
RL Submitted (MAR-1998) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@sib-sib.ch).

DR EMBL: AB012097; BAA25176.1; .
DR HSSP: P23560; 188M.
DR InterPro: IPR002072; NGF.
DR Pfam: PF00243; NGF; 1.
DR PRINTS: PR00268; NGF.
DR ProDom: PD002052; NGF; 1.
DR SMART: SM00140; NGF; 1.
DR PROSITE: PS00248; NGF_1; 1.
DR PROSITE: PS50270; NGF_2; 1.
DR Growth factor; Signal.
KW SIGNAL.
FT SIGNAL 1 18
FT PROPEP 19 136
FT CHAIN 137 255
FT SITE 57 58
FT DISULFD 149 216
FT DISULFD 194 245
FT DISULFD 204 247
FT CAROHD 129 129
SQ SEQUENCE 255 AA; 28308 MW; BA05BA3EBBB8FA04 CRC64;

Query Match 49.6%; Score 346; DB 1; Length 255;
Best Local Similarity 54.5%; Pred. No. 1.2e-26;
Matches 67; Conservative 21; Mismatches 23; Indels 10; Gaps 3;

QY 9 SRGELAVCDVAVSGWVTDRTAVDLRGREVLGEVPAAGSPLRYFETFRCKADNA 66
DB 141 ARRGELAVCDVAVSGWVTDRTAVDLRGREVLGEVPAAGSPLRYFETFRCKADNA 196

QY 67 EREGPAGGCGCGVDRRHVSECKAKOSYVRLTAHAQGRVGRIRIDTACVCTLLSR 126
DB 197 ---MGYTRKCGRGIDKRMNSQCKRTOSYVRLTMDSKRIGRWRIRIDTSCVCTLLT 252

QY 127 TGR 129
DB 253 RGR 255

RESULT 14
BDNF_HUMAN
ID BDNF_HUMAN STANDARD; PRT; 247 AA.
AC P23560; Q9UC24; O9BY17;
DT 01-NOV-1991 (Rel. 20, Created)

DT 01-NOV-1991 (Rel. 20, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Brain-derived neurotrophic factor precursor (BDNF).
GN BDNF.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=91045937; PubMed=2236018;
RA Jones K.R., Reichardt L.F.;
RT "Molecular cloning of a human gene that is a member of the nerve
RT growth factor family";
RL Proc. Natl. Acad. Sci. U.S.A. 87:8060-8064(1990).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=91363361; PubMed=1889806;
RA Melsompierre P.C., Le Beau M.M., Espinosa R. III, Ip N.Y.,
RA Beluscio L., de la Monte S.M., Squinto S., Furch M.E.,
RA Yancopoulos G.D.;
RT "Human and rat brain-derived neurotrophic factor and neurotrophin-3:
RT gene structures, distributions, and chromosomal localizations";
RL Genomics 10:558-568(1991).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=92118032; PubMed=1339267;
RA Shintani A., Ono Y., Katsuo Y., Igarashi K.;
RT "Characterization of the 5'-flanking region of the human
RT brain-derived neurotrophic factor gene";
RL Biochem. Biophys. Res. Commun. 182:325-332(1992).
RN [4]
RP SEQUENCE FROM N.A.
RA Cheng Y., Gu J.;
RL Submitted (MAY-1995) to the EMBL/GenBank/DBJ databases.
RN [5]
RP SEQUENCE FROM N.A.
RA Wu J., Zhang B., Zhou Y., Peng X., Yuan J., Qiang B.;
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
RN [6]
RP SEQUENCE OF 185-227 FROM N.A.
RC TISSUE=Leukocyte;
RX MEDLINE=9122373; PubMed=2025430;
RA Hallboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary";
RL Neuron 6:845-858(1991).
RN [7]
RP SEQUENCE OF 129-144.
RC TISSUE=Serum;
RX MEDLINE=96136633; PubMed=8527932;
RA Rosenfeld R.D., Zeni L., Hanin M., Talvenhelmo J., Radka S.F.,
RA Bennett L., Miller J.A., Welcher A.A.;
RT "Purification and identification of brain-derived neurotrophic factor
RT from human serum";
RL Protein Expr. Purif. 6:465-471(1995).
RN [8]
RP SEQUENCE OF 12-197 FROM N.A.
RX MEDLINE=21082082; PubMed=11214319;
RA Murphy W.J., Elzirik E., Johnson W.E., Zhang Y.P., Ryder O.A.,
RT O'Brien S.J.;
RL "Molecular phylogenetics and the origins of placental mammals";
RN [9]
RP Nature 409:614-618(2001).
RN [9]
RP X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).
RX MEDLINE=95217877; PubMed=7703225;
RA Robinson R.C., Radzilewski C., Stuart D.I., Jones E.Y.;
RT "Structure of the brain-derived neurotrophic factor/neurotrophin 3
RT heterodimer";
RL Biochemistry 34:4139-4146(1995).
RN [10]
RP CHARACTERIZATION, AND MUTAGENESIS OF ARG-54.
RX MEDLINE=21201090; PubMed=11152678;

RA Moïsa S., Farhadi H.F., Pareek S., Atwal J.K., Morris S.J.,
RA Seidman N.G., Murphy R.A.: "Biosynthesis and post-translational processing of the precursor to
RT brain-derived neurotrophic factor." ;
RL J. Biol. Chem. 276:12660-12666(2001).
CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE
CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY
CC CONNECTED TO IT.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- PMW: The peptide is N-glycosylated and glycosulfated.
CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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DR EMBL; M37762; AAA51820.1; -.
DR EMBL; M61176; AAA69805.2; -.
DR EMBL; X62021; CAA42761.1; -.
DR EMBL; AF400438; AAK92487.1; -.
DR EMBL; M61181; AAA96140.1; -.
DR EMBL; X91251; CAA62632.1; -.
DR EMBL; AY011481; AAC47514.1; -.
DR PIR; B36208; B36208.
DR PIR; AA0304; AA0304.
DR PDB; 1BND; 04-APR-96.
DR PDB; 1B8M; 09-FEB-99.
DR GeneW; HGNC:1033; BDNF.

DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 2.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PSS0270; NGF_2; 1.

KW Growth factor; Signal; Glycoprotein; Polymorphism; 3D-structure.
FT SIGNAL 1..18 POTENTIAL.
FT PROPEP 19..128 BRAIN-DERIVED NEUROTROPHIC FACTOR.
FT CHAIN 129..247
FT DISULFD 141..208
FT DISULFD 186..237
FT DISULFD 196..239
FT CARBOHD 121..121
FT SITE 57..58 CLEAVAGE (BY SLIP).
FT VARIANT 66..66 V->M.
FT FTID-VAR_004626.
FT VARIANT 75..75 O->H (IN DBSNP:1048218).
FT VARIANT 125..125 /FTID-VAR_011797.
FT VARIANT 127..127 R->M (IN DBSNP:1048220).
FT VARIANT 127..127 /FTID-VAR_011798.
FT MUTAGEN 54..54 R->L (IN DBSNP:1048221).
FT SEQUENCE 247 AA; 27818 MW; 0A60488254722A99 CRC64;
R->A: ABOLISHES PROCESSING BY SLIP.

Query Match 49.4%; Score 345; DB 1; Length 247;
Best Local Similarity 53.7%; Pred.No.1.5e-26;
Matches 66; Conservative 22; Mismatches 25; Indels 10; Gaps 3;

OY SRRGELAVCDVAGSVT--DKRTAVDLGRREVLEVGEVPAPAAGSPLRQFFETRECKADNA 66
|::|||::|||::||| |::|||::| ||::|||::| |::|||::|||:
DB ARRGGLSYVDGSISEVWTADKRTVAAGSGTYVELEKVFVKGO-LKOIFYETKCPN--- 188
|::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||:
OY EEGGGAGGAGCGRVGDWRIMVWEKKASOGYSVALALHAAGGVGMRIARDTAACCTLLSR 126
|::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||:
DB LHR ----MGYTREGCRGIDKRHMNSOCRTTOSYSTVALTMDSKKRKIGMFIRIDIYSCVCTLTIK 244
|::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||:

Db 245 RGR 247

Job time : 5.33411 secs

RESULT 15

BDNF_PROLO STANDARD; PRT; 247 AA.

AC O18755;

DT 15-JUL-1998 (Rel. 36, Created)

DT 15-JUL-1998 (Rel. 36, Last sequence update)

DT 15-JUN-2002 (Rel. 41, Last annotation update)

DE Brain-derived neurotrophic factor precursor (BDNF).

GN BDNF.

OS Procyon lotor (Raccoon).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Carnivora; Fissipedia; Procyonidae; Procyon.

OX NCBI_TaxID=9654;

RM [1]

RP SEQUENCE FROM N.A.

RA L1a F.;

RL Submitted (MAY-1997) to the EMBL/GenBank/DBJ databases.

CC -1- FUNCTION: PROMOTES THE SURVIVAL OF NEURONAL POPULATIONS THAT ARE

CC ALL LOCATED EITHER IN THE CENTRAL NERVOUS SYSTEM OR DIRECTLY

CC CONNECTED TO IT (BY SIMILARITY).

CC -1- SUBCELLULAR LOCATION: Secreted.

CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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CC or send an email to license@isb-sib.ch).

CC -----

DR EMBL; AF003188; AAB71654.1; -

DR HSSP; P23560; 188W.

DR InterPro; IPR002072; NGF.

DR Pfam; PF00243; NGF; 1.

DR PRINTS; PR00268; NGF.

DR PRODOM; PD002052; NGF; 1.

DR SMART; SM00140; NGF; 1.

DR PROSITE; PS00248; NGF_1; 1.

DR PROSITE; PS50270; NGF_2; 1.

DR Growth factor; Signal.

KW Growth factor; Signal.

FT SIGNAL 1 18

FT PROPEP 19 128

FT CHAIN 129 247

FT SITE 57 58

FT DISULFID 141 208

FT DISULFID 186 237

FT DISULFID 196 239

FT CARBOHYD 121 121

FT SEQUENCE 247 AA; 27834 MW; 5FC377E4FE1F52A0 CRC64;

SQ

Query Match 49.4%; Score 345; DB 1; Length 247;

Best Local Similarity 53.7%; Pred. No. 1.5e-26;

Matches 66; Conservative 22; Mismatches 25; Indels 10; Gaps 3;

OY 9 SRGELAVCDANSGWT--DRRTAVDLRGREVEVLGEVPAAGSGPLROYFFETRCADANA 66

DB 133 ARRGELSVCDISISEWTADKRTAVDMSGTYVLEKVPVSKGO-LKQYFETKCP--- 188

OY 67 EEGPGAGGGCGVDNRHWSSECKAKOSYVRALTAHAGRGVGRWIRIRIDTACVTLISR 126

DB 189 ---MGTKEGCGIDKRHMNSOCTRTOISYVRALTMDSKKRIGWRIRIDTSCVTLITIK 244

OY 127 TGR 129

DB 245 RGR 247

Search completed: December 2, 2002, 15:12:44

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 ; Search time 20.1172 Seconds
(Without alignments)
1331.501 Million cell updates/sec

Title: US-10-072-681-6

Perfect score: 698
Sequence: 1 GVSETAPARSGELAVCDAY.....RWIRIDTACVCTLLSRTGRA 130

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :

SPREMBL.21:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriophage:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length DB	ID	Description
1	345	49.4	153	11	09CYL3
2	345	49.4	247	6	097759
3	345	49.4	249	11	08VH4
4	336	48.1	177	13	0918L2
5	334	47.9	246	13	080G74
6	332	47.6	246	13	080G75
7	328	47.0	246	13	080G76
8	327	46.8	270	13	09YH42
9	323.5	46.3	324	13	09XY95
10	322	46.1	241	6	09N182
11	317.5	45.5	247	13	080G77
12	287.5	42.6	241	4	09P208
13	297.5	42.6	241	4	096P60
14	297.5	42.6	241	4	09UKL8
15	297.5	42.6	241	6	09N2F1
16	297.5	42.6	241	6	09N2F0

17	297.5	42.6	241	6	09N2E9	09n2e9 pongo pygma
18	296	42.4	101	6	09T22	09t22 macaca fusc
19	277.5	39.8	294	11	091XB4	091xb4 mus musculu
20	266.5	38.2	217	6	09N183	09n183 macaca fusc
21	265.5	38.0	241	13	090W38	090w38 bothriops ja
22	262.5	37.6	241	13	09DE29	09de29 crocalus du
23	228.5	32.7	286	13	091988	091988 xiphophorus
24	216	30.9	85	6	002792	002792 notoryctes
25	216	30.9	87	4	09P224	09p224 homo sapien
26	213	30.5	85	6	013114	013114 isodon mac
27	213	30.5	85	6	013122	013122 tarsipes ro
28	213	30.5	85	6	002795	002795 ornithorhyn
29	213	30.5	85	6	002798	002798 petaurus br
30	213	30.5	85	6	013104	013104 cercartetus
31	213	30.5	85	6	002790	002790 macropus fu
32	213	30.5	85	6	013105	013105 dasyrodides
33	213	30.5	85	6	002801	002801 tachylosau
34	212.5	30.4	87	6	09TFC3	09tfc3 cervus elap
35	212	30.4	85	6	002803	002803 trichosurus
36	178	25.5	186	12	09J5D9	09j5d9 fowipox vir
37	162	23.2	185	6	09BFR7	09bfr7 erinaceus c
38	162	23.2	185	6	09BFL0	09bfl0 chaetoprac
39	160	22.9	185	11	099NV9	099nv9 pedetes cap
40	159	22.8	184	6	09BRJ5	09brj5 tupaya mmo
41	159	22.8	185	6	09BRK6	09brk6 talpa alta1
42	159	22.8	185	6	09BRK5	09brk5 condylura c
43	159	22.8	186	6	09BFL3	09bfl3 choioepus d
44	159	22.8	186	6	09BFL2	09bfl2 choioepus d
45	159	22.8	186	6	09BFR9	09bfr9 tamandua te

ALIGNMENTS

RESULT 1

ID	09CYL3	PRELIMINARY:	PRT:	153 AA.
AC	09CYL3			
DT	01-JUN-2001 (TREMBLrel. 17, Created)			
DT	01-JUN-2001 (TREMBLrel. 17, Last sequence update)			
DT	01-DEC-2001 (TREMBLrel. 19, Last annotation update)			
DE	Brain derived neurotrophic factor.			
GN	BDNF.			
OS	Mus musculus (Mouse).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.			
OX	NCBI_TaxID=10090;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	STRAIN=C57BL/6J; TISSUE=EMBRYO;			
RX	MEDLINE=21085660; PubMed=11217851;			
RA	Kawai J., Shingawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,			
RA	Arakawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,			
RA	Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana I.,			
RA	Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,			
RA	Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,			
RA	Fleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,			
RA	Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,			
RA	Schirral L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,			
RA	Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,			
RA	Blake J., Boffelli D., Bojunga N., Carinci P., de Bonaudo M.F.,			
RA	Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,			
RA	Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,			
RA	Lyons P., Marchionni L., Mashima J., Mazzarelli J., Momhaers P.,			
RA	Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,			
RA	Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,			
RA	Suzuki H., Toyooka K., Wang K.H., Weitz C., Whitaker C., Wiling L.,			
RA	Wyrushki-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohsaki S.,			
RA	Hayashizaki Y.,			
RT	"Functional annotation of a full-length mouse cDNA collection.";			
RL	Nature 409:685-690(2001).			
DR	EMBL; AK017559; BAB30805.1; HSP; P23560; I8M.			

Oy 127 TGR 129
Db 244 RGR 246

RESULT 8

ID 09YH42 PRELIMINARY; PRT: 270 AA.
AC 09YH42;
DT 01-MAY-1999 (TREMBlrel. 10, Created)
DT 01-MAY-1999 (TREMBlrel. 10, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE Brain-derived neurotrophic factor.
GN BDNF.
OS Brachydanio rerio (Zebrafish) (Zebra danio).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Osteichthyes; Cypriniformes;
OC Cyprinidae; Danio.
NCBI_TaxID=7955;
RN [1]
RP SEQUENCE FROM N.A.
RA Hashimoto M., Heinrich G.;
RL Submitted (DEC-1995) to the EMBL/GenBank/DBJ databases.
DR EMBL; U42489; AAD0016.1; -.
DR HSSP; P23560; 188M.
DR ZFIN; ZDB-GENE-000412-1; bdnf.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
SQ SEQUENCE 270 AA; 29482 MW; 6BF136101B4E45C0 CRC64;

Query Match 46.8%; Score 327; DB 13; Length 270;
Best Local Similarity 50.4%; Pred. No. 1.5e-24;
Matches 62; Conservative 25; Mismatches 26; Indels 10; Gaps 3;

Oy 9 SRGELAVCDVAVSGWVT--DRRTAVDLRGREVEVLGEVPAAGSPLRQYFETRCADNA 66
Db 156 ARWGLSTVCDSTISQWTVAVDKTAIDMSQITVLEKVPVTNGQ-LKQFYETKCNP--- 211
Oy 67 EEGGAGGCGGCGVDRRHVSECKAKOSYRALTAAAGRGVWRIRIDTACVCTLLSR 126
Db 212 ---LGYRKGGCGRIDKRRHNSQCRTOGYVRLTMDSKRKIGMRFIRIDTSCVCTLTK 267
Oy 127 TGR 129
Db 268 RGR 270

RESULT 9

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AC 09XY95;
DT 01-NOV-1999 (TREMBlrel. 12, Created)
DT 01-NOV-1999 (TREMBlrel. 12, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE Neurotrophin.
GN NT1.
OS Lampetra fluviatilis (River lamprey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
OC Petromyzontiformes; Petromyzontidae; Lampetra.
NCBI_TaxID=7748;
RN [1]
RP SEQUENCE FROM N.A.
RA TISSUE=LIVER;
RX MEDLINE=99003404; PubMed=9786977;
RA Hallbook F., Lundin L.G., Kullander K.;
RT "Lampetra fluviatilis neurotrophin homolog, descendant of a neurotrophin ancestor, discloses the early molecular evolution of neurotrophins in the vertebrate subphylum.";

RL J. Neurosci. 18:8700-8711(1998).

DR EMBL; AF071432; AAD22744.1; -.
DR HSSP; P20783; 188K.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS50270; NGF_2; 1.
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Best Local Similarity 44.5%; Pred. No. 4e-24;
Matches 69; Conservative 14; Mismatches 41; Indels 31; Gaps 4;

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Oy 51 --PLRQYFETRCADNAEBC-----GFGAG-GGGCGVDRRHVSECKAKOS 95
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Db 290 FVRALTEDAGRLAWRWIRIDTACVCTLLRRYGA 324

RESULT 10

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AC 09N182;
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DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE Neurotrophin-3 (Fragment).
OS Macaca fuscata (Japanese macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecoidea; Macaca.
NCBI_TaxID=9542;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=BLOOD;
RX Okuno H., Tokuyama W., Li Y.X., Hashimoto T., Miyashita Y.;
RA "Quantitative evaluation of neurotrophin and trk mRNA expression in visual and limbic areas along the occipito-temporo-hippocampal pathway in adult macaque monkeys."
RT J. Comp. Neurol. 408:378-398(1999).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=BLOOD;
RA Hashimoto T., Okuno H., Tokuyama W., Li Y.X., Miyashita Y.;
RT "Expression of brain-derived neurotrophic factor, neurotrophin-3 and their receptor messenger RNAs in monkey rhinal cortex.";

DR EMBL; AF222683; AAF33791.1; -.
DR HSSP; P20783; 188K.
DR InterPro; IPR002072; NGF.
DR Pfam; PF00243; NGF; 1.
DR PRINTS; PR00268; NGF.
DR PRODOM; PD002052; NGF; 1.
DR SMART; SM00140; NGF; 1.
DR PROSITE; PS00248; NGF_1; 1.
DR PROSITE; PS50270; NGF_2; 1.
FT NON_TER 1 1
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SQ SEQUENCE 241 AA; 27803 MW; AB95E457C7B07113 CRC64;

Query Match 46.1%; Score 322; DB 6; Length 241;
Best Local Similarity 56.0%; Pred. No. 4e-24;
Matches 61; Conservative 16; Mismatches 24; Indels 8; Gaps 3;

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OY   SRRCGLACDVAVSGWTRRFRATGEVEVLGVPAAGGSPLEPYFEETCKADNME 68  
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DB    141 SHRGYSVCDSLSLWTCKSSAIDIRGHQYYVLGEL-KTGNPVOXYETRCK-----E 194  
  
OY     69 GCGPGAGGGCGRVDRRHWVSECCAKOSYVRALTAHOGRVGMWRIRIDI 117  
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DB    195 ARPVK-NMCRIGIDDKHMNSOCKTSQTYYRALITSNNKLVGMRWI-RIDI 241  
  
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AC 08OG77:  
DT 01-JUN-2002 (TREMBLrel. 21, Created)  
DT 01-JUN-2002 (TREMBLrel. 21, Last sequence update)  
DT 01-JUN-2002 (TREMBLrel. 21, Last annotation update)  
DE Brain derived neurotrophic factor.  
OS Tylotocriton tallangensis.  
OC Eukaryota; Metazoa; Chordata;  
OC Amphibia; Batrachia; Caudata; Salamandroides; Salamandridae;  
OX NCBL_Taxid=129885;  
RN SEQUENCE FROM N.A.  
RP Cao M., Yang Y.H., Zhang Y.Z.:  
RT "Cloning and sequence analysis of brain derived neurotrophic factor  
RL (BDNF) gene from Sichuan Newt (Tyilotocriton tallangensis).";  
YL Ying feng yu Huan Cheng Sheng Wu Hshue Phao 8:0-0(2002).  
DR EMBL; AF497712; AAAI8078.1.;  
SQ SEQUENCE 247 AA; 27841 MW; FFCB5F28A7620DED0 CRC64;
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OQuery Match              45.5%; Score 317.5; DB 13; Length 247;  
Best Local Similarity    51.2%; Pred. No. 1.2e-23;  
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DB    130 SGPRA-RRELSTSCDISISEWTVASKDKITANDMSGGYTYVLEKYPVPEGC-LKGIFYETRK -- 185  
  
OY   63 ADNAEBGCPGAGGCCRGVDRRHWWSECCAKOSYVRALTAHOGRVGMWRIRDIACVCT 122  
      |          ||| : ||| : ||| : ||| : ||| : ||| : ||| : ||| : ||| :  
DB    186 -----RNPWGMYKKECRGIDKRRYMWSQCRTQSYYVALTLVDHKKVGFRIRIDISCVCT 240  
  
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DB    241 LTIKRGR 247  
  
RESULT 12  
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AC 09PZ08:  
DT 01-OCT-2000 (TREMBLrel. 15, Created)  
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
DT 01-DEC-2001 (TREMBLrel. 19, last annotation update)  
DE Beta-nerve growth factor (Fragment).  
CN BETA-NGF.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
OX NCBL_Taxid=9606;  
[1]  
RP SEQUENCE FROM N.A.  
RA Kitano T., Kobayakawa H., Satou N.;  
RT "Silver Project."  
RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AB037517; BAA90437.1.; -  
DR HSSP; P01139; IBER.  
DR InterPro: IPRO02072; NGF.  
DR Pfam: PF00243; NGF.1.  
DR PRINTS; PR00268; NGF.  
DR ProDom; PD002052; NGF; 1.
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[illegible]

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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:05:42 : Search time 8.99179 Seconds
(without alignments)
425.386 Million cell updates/sec

Title: US-10-072-681-6

Perfect score: 698
Sequence: 1 GVSETPAPASRGELAVCDV.....RWIRIDPACVCTLLSTGR 130

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	698	100.0	130	3	US-08-970-865-6
2	698	100.0	130	3	US-08-581-662-1
3	698	100.0	130	4	US-09-363-573-6
4	698	100.0	130	4	US-09-675-503-6
5	698	100.0	130	4	US-09-664-295-1
6	698	98.7	130	1	US-08-440-049-5
7	689	98.7	130	2	US-08-441-513A-5
8	689	98.7	130	5	PCT-US95-06918-6
9	689	98.7	168	1	US-08-451-947-6
10	689	98.7	168	2	US-08-424-826A-6
11	689	98.7	168	3	US-08-928-694-6
12	689	98.7	168	5	PCT-US91-06950-6
13	689	98.7	210	1	US-08-451-947-2
14	689	98.7	210	2	US-08-424-826A-2
15	689	98.7	210	3	US-08-928-694-2
16	689	98.7	210	5	PCT-US91-06950-2
17	689	98.7	215	1	US-07-796-106-23
18	689	98.1	130	1	US-08-451-947-62
19	685	98.1	130	2	US-08-424-826A-62
20	685	98.1	130	2	US-08-424-826A-62
21	685	98.1	130	3	US-08-928-694-62
22	685	98.1	130	3	US-08-928-694-62
23	685	98.1	130	3	US-08-928-694-62
24	685	98.1	130	5	PCT-US91-06950-62
25	685	98.1	130	5	PCT-US91-06950-62
26	684	98.0	130	1	US-08-451-947-22
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28	684	98.0	130	1	US-08-451-947-61	Sequence 61, Appl
29	684	98.0	130	1	US-08-451-947-63	Sequence 63, Appl
30	684	98.0	130	1	US-08-451-947-64	Sequence 64, Appl
31	684	98.0	130	1	US-08-451-947-69	Sequence 69, Appl
32	684	98.0	130	2	US-08-424-826A-22	Sequence 22, Appl
33	684	98.0	130	2	US-08-424-826A-59	Sequence 59, Appl
34	684	98.0	130	2	US-08-424-826A-61	Sequence 61, Appl
35	684	98.0	130	2	US-08-424-826A-63	Sequence 63, Appl
36	684	98.0	130	2	US-08-424-826A-64	Sequence 64, Appl
37	684	98.0	130	2	US-08-424-826A-69	Sequence 69, Appl
38	684	98.0	130	3	US-08-928-694-22	Sequence 22, Appl
39	684	98.0	130	3	US-08-928-694-59	Sequence 59, Appl
40	684	98.0	130	3	US-08-928-694-61	Sequence 61, Appl
41	684	98.0	130	3	US-08-928-694-63	Sequence 63, Appl
42	684	98.0	130	3	US-08-928-694-64	Sequence 64, Appl
43	684	98.0	130	3	US-08-928-694-69	Sequence 69, Appl
44	684	98.0	130	5	PCT-US91-06950-22	Sequence 22, Appl
45	684	98.0	130	5	PCT-US91-06950-59	Sequence 59, Appl

ALIGNMENTS

RESULT 1
US-08-970-865-6
Sequence 6, Application US/08970865
Patent No. 6005081
GENERAL INFORMATION:
APPLICANT: Louis E. Burton, Charles H. Schmeizer, Joanne T. Beck
TITLE OF INVENTION: Purification of NGF
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESSES:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 MB floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/970,865
FILING DATE: 14-No. 6005081-1997
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/030838
FILING DATE: 11/15/1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/047855
FILING DATE: 5/29/1997
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, PhD., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P1063R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 130 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-970-865-6
Query Match 100.0%; Score 698; DB 3; Length 130;
Best Local Similarity 100.0%; Pred. No. 5.2e-73;
Matches 130; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Db 1 GVSETAPASRRGELAVCDVAVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
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Db 61 CKADNAEEGGPGAGGGCGRCVDRRHVWSECKAKOSYVVALTAHAGRGVWIRIDTACV 120
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Db 121 CTTLSRTGRA 130

RESULT 2
US-08-581-662-1
; Sequence 1, Application US/08581662
; Patent No. 6121235
; GENERAL INFORMATION:
; APPLICANT: Gao, Wei-Qiang
; TITLE OF INVENTION: Treatment of Balance Impairments
; FILE REFERENCE: P0981
; CURRENT APPLICATION NUMBER: US/08/581.662
; CURRENT FILING DATE: 1995-12-29
; NUMBER OF SEQ ID NOS: 36
; SEQ ID NO 1
; LENGTH: 130
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-581-662-1

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Best Local Similarity 100.0%; Pred. No. 5.2e-73;
Matches 130; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 1 GVSETAPASRRGELAVCDVAVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
QY 61 CKADNAEEGGPGAGGGCGRCVDRRHVWSECKAKOSYVVALTAHAGRGVWIRIDTACV 120
Db 61 CKADNAEEGGPGAGGGCGRCVDRRHVWSECKAKOSYVVALTAHAGRGVWIRIDTACV 120
QY 121 CTTLSRTGRA 130
Db 121 CTTLSRTGRA 130

RESULT 3
US-09-363-573-6
; Sequence 6, Application US/09363573
; Patent No. 6184360
; GENERAL INFORMATION:
; APPLICANT: Louis E. Burton, Charles H. Schmeltzer, Joanne T. Beck
; TITLE OF INVENTION: Purification of NGF
; NUMBER OF SEQUENCES: 6
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/363,573
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/08/970,865
; FILING DATE: 14-No. 6184360-1997
; APPLICATION NUMBER: 60/030838
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; FILING DATE: 11/15/1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 60/047855
; FILING DATE: 5/29/1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Ph.D., Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P1063R2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-8674
; TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 130 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
US-09-363-573-6

Query Match 100.0%; Score 698; DB 4; Length 130;
Best Local Similarity 100.0%; Pred. No. 5.2e-73;
Matches 130; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 61 CKADNAEEGGPGAGGGCGRCVDRRHVWSECKAKOSYVVALTAHAGRGVWIRIDTACV 120
QY 121 CTTLSRTGRA 130
Db 121 CTTLSRTGRA 130

RESULT 4
US-09-675-503-6
; Sequence 6, Application US/09675503
; Patent No. 6423831
; GENERAL INFORMATION:
; APPLICANT: Burton, Louis E.
; APPLICANT: Schmeltzer, Charles H.
; TITLE OF INVENTION: ISOLATION OF NEUROTROPHINS FROM A
; TITLE OF INVENTION: MIXTURE CONTAINING OTHER PROTEINS AND NEUROTROPHIN VARIANTS
; TITLE OF INVENTION: USING HYDROPHOBIC INTERACTION CHROMATOGRAPHY
; FILE REFERENCE: GENENT.037C2
; CURRENT APPLICATION NUMBER: US/09/675,503
; CURRENT FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: 60/030838
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: 60/047855
; PRIOR FILING DATE: 1997-05-29
; PRIOR APPLICATION NUMBER: 08/970865
; PRIOR FILING DATE: 1997-11-14
; PRIOR APPLICATION NUMBER: 09/363573
; PRIOR FILING DATE: 1999-07-29
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 6
; LENGTH: 130
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-675-503-6

Query Match 100.0%; Score 698; DB 4; Length 130;
Best Local Similarity 100.0%; Pred. No. 5.2e-73;
Matches 130; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 1 GVSETAPASRRGELAVCDVAVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
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DB 121 CTLLSRTGRA 130

RESULT 5
US-09-664-295-1

; Sequence 1, Application us/09664295
; Patent No. 6429196
; GENERAL INFORMATION:
; APPLICANT: Gao, Wei-Qiang
; TITLE OF INVENTION: Treatment of Balance Impairments
; FILE REFERENCE: GENENT.051C1
; CURRENT APPLICATION NUMBER: US/09/664,295
; CURRENT FILING DATE: 2000-09-18
; PRIOR APPLICATION NUMBER: US 08/581,662
; PRIOR FILING DATE: 1995-12-29
; NUMBER OF SEQ ID NOS: 37
; SEQ ID NO 1
; LENGTH: 130
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-664-295-1

Query Match 100.0%; Score 698; DB 4; Length 130;
Best Local Similarity 100.0%; Pred. No. 5.2e-73;
Matches 130; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 1 GVSETAPASRRGELAVCDVSGWYTDRTTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
OY 61 CKADNAEERGCGAGCGGCGVDRRRHWSECKAKOSYVALTAHAQGRVGMWIRIDTACV 120
DB 61 CKADNAEERGCGAGCGGCGVDRRRHWSECKAKOSYVALTAHAQGRVGMWIRIDTACV 120
OY 121 CTLLSRTGRA 130
DB 121 CTLLSRTGRA 130

RESULT 6
US-08-440-049-5

; Sequence 5, Application US/08440049
; Patent No. 5728803
; GENERAL INFORMATION:
; APPLICANT: Ufiter, Roman
; APPLICANT: Presta, Leonard G.
; APPLICANT: Winslow, John W.
; TITLE OF INVENTION: PANTROPIC NEUROTROPHIC FACTORS
; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/440,049
; FILING DATE: 12-May-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/253937

; FILING DATE: 03-JUN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P0905C2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 130 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
US-08-440-049-5

Query Match 98.7%; Score 689; DB 1; Length 130;
Best Local Similarity 99.2%; Pred. No. 5.7e-72;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 GVSETAPASRRGELAVCDVSGWYTDRTTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
DB 1 GVSETAPASRRGELAVCDVSGWYTDRTTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
OY 61 CKADNAEERGCGAGCGGCGVDRRRHWSECKAKOSYVALTAHAQGRVGMWIRIDTACV 120
DB 61 CKADNAEERGCGAGCGGCGVDRRRHWSECKAKOSYVALTAHAQGRVGMWIRIDTACV 120
OY 121 CTLLSRTGRA 130
DB 121 CTLLSRTGRA 130

RESULT 7
US-08-441-513A-5

; Sequence 5, Application US/08441513A
; Patent No. 5981480
; GENERAL INFORMATION:
; APPLICANT: Ufiter, Roman
; APPLICANT: Presta, Leonard G.
; APPLICANT: Winslow, John W.
; TITLE OF INVENTION: Pantropic Neurotrophic Factors
; NUMBER OF SEQUENCES: 20
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/441,513A
; FILING DATE: 15-May-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/253937
; FILING DATE: 03-JUN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Pnd., Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P0905C3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-8674
; TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 130 amino acids
; TYPE: Amino Acid

TOPOLOGY: Linear
US-08-441-513A-5

Query Match 98.7%; Score 689; DB 2; Length 130;
Best Local Similarity 99.2%; Pred. No. 5.7e-72;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 GVSETAPASRRGELAVCDVAVSGWVTDRTAVDLRGREVEVLGEVPAAGGSPLRQYFFETR 60
DB 1 GVSETAPASRRGELAVCDVAVSGWVTDRTAVDLRGREVEVLGEVPAAGGSPLRQYFFETR 60
OY 61 CKADNAEEGGGAGGCGGCGVDRRHVWSECKAKOSYVRLTAHAOGVGMWRIRIDTACY 120
DB 61 CKADNAEEGGGAGGCGGCGVDRRHVWSECKAKOSYVRLTAHAOGVGMWRIRIDTACY 120
OY 121 CTLLSRTGRA 130
DB 121 CTLLSRTGRA 130

RESULT 8

PCT-US95-06918-6
Sequence 6, Application PC/TUS9506918

GENERAL INFORMATION:
APPLICANT: Genentech, Inc.
TITLE OF INVENTION: PANTROPIC NEUROTROPIC FACTORS
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patln (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/06918
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 905PCT
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 130 amino acids
TYPE: amino acid
TOPOLOGY: linear
PCT-US95-06918-6

Query Match 98.7%; Score 689; DB 5; Length 130;
Best Local Similarity 99.2%; Pred. No. 5.7e-72;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 GVSETAPASRRGELAVCDVAVSGWVTDRTAVDLRGREVEVLGEVPAAGGSPLRQYFFETR 60
DB 1 GVSETAPASRRGELAVCDVAVSGWVTDRTAVDLRGREVEVLGEVPAAGGSPLRQYFFETR 60
OY 61 CKADNAEEGGGAGGCGGCGVDRRHVWSECKAKOSYVRLTAHAOGVGMWRIRIDTACY 120
DB 61 CKADNAEEGGGAGGCGGCGVDRRHVWSECKAKOSYVRLTAHAOGVGMWRIRIDTACY 120

OY 121 CTLLSRTGRA 130
DB 121 CTLLSRTGRA 130

RESULT 9

US-08-451-947-6
Sequence 6, Application US/08451947

PATENT No. 5702906
GENERAL INFORMATION:
APPLICANT: GENENTECH, INC.
TITLE OF INVENTION: NOVEL NEUROTROPIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patln (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/451,947
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2C1D2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 168 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-451-947-6

Query Match 98.7%; Score 689; DB 1; Length 168;
Best Local Similarity 99.2%; Pred. No. 7.9e-72;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 GVSETAPASRRGELAVCDVAVSGWVTDRTAVDLRGREVEVLGEVPAAGGSPLRQYFFETR 60
DB 39 GVSETAPASRRGELAVCDVAVSGWVTDRTAVDLRGREVEVLGEVPAAGGSPLRQYFFETR 98
OY 61 CKADNAEEGGGAGGCGGCGVDRRHVWSECKAKOSYVRLTAHAOGVGMWRIRIDTACY 120
DB 99 CKADNAEEGGGAGGCGGCGVDRRHVWSECKAKOSYVRLTAHAOGVGMWRIRIDTACY 158
OY 121 CTLLSRTGRA 130
DB 159 CTLLSRTGRA 168

STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 Inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patln (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US91/06950
FILING DATE: 19910924
CLASSIFICATION: 436
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
ATTORNEY/AGENT INFORMATION:
NAME: Hensley, Max D.
REGISTRATION NUMBER: 27,043
REFERENCE/DOCKET NUMBER: 666P1
TELEPHONE: 415/266-1994
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 168 amino acids
TYPE: AMINO ACID
TOPOLOGY: linear
PCT-US91-06950-6

Query Match 98.7%; Score 689; DB 5; Length 168;
Best Local Similarity 99.2%; Pred. No. 7.9e-72;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVSETAPASRRELAVCDVSGWVTDRRTAVDRLRGREVEVLGEVPAAGSPPLROYFFETR 60
DB 39 GVSERAPASRRELAVCDVSGWVTDRRTAVDRLRGREVEVLGEVPAAGSPPLROYFFETR 98
QY 61 CKAADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRLTLTHAGRGVWRIRIDTACY 120
DB 99 CKAADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRLTLTHAGRGVWRIRIDTACY 158
QY 121 CTLLSRTGRA 130
DB 159 CTLLSRTGRA 168

RESULT 13
US-08-451-947-2
Sequence 2, Application US/08451947
Patent No. 5702906
GENERAL INFORMATION:
APPLICANT: GENENTECH, INC.
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 Inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patln (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/451,947

FILING DATE: 514
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2C1D2
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-451-947-2

Query Match 98.7%; Score 689; DB 1; Length 210;
Best Local Similarity 99.2%; Pred. No. 1e-71;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVSETAPASRRELAVCDVSGWVTDRRTAVDRLRGREVEVLGEVPAAGSPPLROYFFETR 60
DB 81 GVSERAPASRRELAVCDVSGWVTDRRTAVDRLRGREVEVLGEVPAAGSPPLROYFFETR 140
QY 61 CKAADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRLTLTHAGRGVWRIRIDTACY 120
DB 141 CKAADNAEEGGPGAGGGCGVDRRHVSECKAKOSYVRLTLTHAGRGVWRIRIDTACY 200
QY 121 CTLLSRTGRA 130
DB 201 CTLLSRTGRA 210

RESULT 14
US-08-424-826A-2
Sequence 2, Application US/08424826A
Patent No. 5830858
GENERAL INFORMATION:
APPLICANT: Rosenthal, Arnon
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 98
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 Inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: winpatln (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/424,826A
FILING DATE: 19-APR-1995
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/240387
FILING DATE: 10-May-1994

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN-1991
PRIOR APPLICATION DATA: 07/587707
FILING DATE: 25-SEP-1990
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Ph.D., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0666P1C2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-424-826A-2

Query Match
Best Local Similarity 98.7%; Score 689; DB 2; Length 210;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVSETAPASRRGELAVCDVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
DB 81 GVSETAPASRRGELAVCDVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 140
QY 61 CKADNAEEGPGAGGCGRCVDRRHVYSECKAKOSYVRLTAHAGVGNRMIRIDTACY 120
DB 141 CKADNAEEGPGAGGCGRCVDRRHVYSECKAKOSYVRLTAHAGVGNRMIRIDTACY 200
QY 121 CTLLSRTGRA 130
DB 201 CTLLSRTGRA 210

RESULT 15
US-08-928-694-2
Sequence 2, Application US/08928694
Patent No. 6037320
GENERAL INFORMATION:
APPLICANT: ROSENTHAL, ARNON
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
City: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 Inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/928,694
FILING DATE: 12-Sep-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/451947
FILING DATE: 26-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482

FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Ph.D., Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: P0666P2C1D2C1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-928-694-2

Query Match
Best Local Similarity 98.7%; Score 689; DB 3; Length 210;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVSETAPASRRGELAVCDVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
DB 81 GVSETAPASRRGELAVCDVSGWVTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 140
QY 61 CKADNAEEGPGAGGCGRCVDRRHVYSECKAKOSYVRLTAHAGVGNRMIRIDTACY 120
DB 141 CKADNAEEGPGAGGCGRCVDRRHVYSECKAKOSYVRLTAHAGVGNRMIRIDTACY 200
QY 121 CTLLSRTGRA 130
DB 201 CTLLSRTGRA 210

Search completed: December 2, 2002, 15:09:45
Job time : 9.99179 secs

; Sequence 60, Application US/08450842
; Patent No. US20020045576A1
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/450,842
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-JAN
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: 666P2C1D3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
; TELEEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 60:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 130 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; US-08-450-842-60

Query Match 97.9%; Score 683; DB 8; Length 130;
Best Local Similarity 98.5%; Pred. No. 2,3e-60;
Matches 128: Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 GVSETAPASRGLAVCDVAVSGVNTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
|||||
Db 1 GVSETAPASRGLAVCDVAVSGVNTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
|||||

OY 61 CKADNAEEGCGPGAGCGCGVDRRHVSECKAKOSYVRAITAHAGRGVHWIRIDTACY 120
|||||
Db 61 CKADNAEEGCGPGAGCGCGVDRRHVSECKAKOSYVRAITAHAGRGVHWIRIDTACY 120
|||||

OY 121 CTLLSRTGRA 130
|||||
Db 121 CTLLSRTGRA 130
|||||

Search completed: December 2, 2002, 15:14:35
Job time : 4.5721 secs

QY 121 CTTLSRTGRA 130
Db 121 CTTLSRTGRA 130

RESULT 13
US-08-450-842-20
; Sequence 20, Application US/08450842
; Patent No. US20020045576A1
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 Inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/450, 842
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-JAN
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: 666P2C1D3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 20:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 130 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
US-08-450-842-20

Query Match 97.9%; Score 683; DB 8; Length 130;
Best Local Similarity 98.5%; Pred. No. 2.3e-60;
Matches 128; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 GVSSETAPASRGELAVDAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
Db 1 GVSSETAPASRGELAVDAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
QY 61 CKADNAEEGGPGAGGCGRCVDRRHVWSECKAKOSYVRALTAAHQGVGWRWIRIDTACY 120
Db 61 CKADNAEEGGPGAGGCGRCVDRRHVWSECKAKOSYVRALTAAHQGVGWRWIRIDTACY 120
QY 121 CTTLSRTGRA 130
Db 121 CTTLSRTGRA 130

RESULT 14
US-08-450-842-23
; Sequence 23, Application US/08450842
; Patent No. US20020045576A1
; GENERAL INFORMATION:
; APPLICANT: GENENTECH, INC.
; APPLICANT: ROSENTHAL, ARNON
; TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
; NUMBER OF SEQUENCES: 100
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 Inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/450, 842
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/426419
; FILING DATE: 19-APR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/030013
; FILING DATE: 22-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/648482
; FILING DATE: 31-JAN
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/587707
; FILING DATE: 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: 666P2C1D3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-8674
; TELEFAX: 415/952-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 23:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 130 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
US-08-450-842-23

Query Match 97.9%; Score 683; DB 8; Length 130;
Best Local Similarity 98.5%; Pred. No. 2.3e-60;
Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 GVSSETAPASRGELAVDAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
Db 1 GVSSETAPASRGELAVDAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLRQYFFETR 60
QY 61 CKADNAEEGGPGAGGCGRCVDRRHVWSECKAKOSYVRALTAAHQGVGWRWIRIDTACY 120
Db 61 CKADNAEEGGPGAGGCGRCVDRRHVWSECKAKOSYVRALTAAHQGVGWRWIRIDTACY 120
QY 121 CTTLSRTGRA 130
Db 121 CTTLSRTGRA 130
RESULT 15
US-08-450-842-60

LENGTH: 130 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-450-842-59

Query Match

98.0%; Score 684; DB 8; Length 130;

Best Local Similarity 98.5%; Pred. No. 1.8e-60;
Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVSEFAPASRRGELAVCDVSGWYDRTAVDLRGREVEVLGEVPAAGSPRLQYFFETR 60
DB 1 GVSEFAPASRRGELAVCDVSGWYDRTAVDLRGREVEVLGEVPAAGSPRLQYFFETR 60
QY 61 CKADNAEEGCGAGGCGGCGVDRRHWSSECKAKOSYVRLTAHAQGVGMIRIDTACV 120
DB 61 CKADNAEEGCGAGGCGGCGVDRRHWSSECKAKOSYVRLTAHAQGVGMIRIDTACV 120
QY 121 CTLLSRTGRA 130
DB 121 CTLLSRTGRA 130

RESULT 9

US-08-450-842-61
Sequence 61, Application US/08450842
Patent No. US20020045576A1
GENERAL INFORMATION:
APPLICANT: GENE TECH, INC.
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patlin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/450,842
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2CID3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 61:
SEQUENCE CHARACTERISTICS:
LENGTH: 130 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-450-842-61

Query Match 98.0%; Score 684; DB 8; Length 130;
Best Local Similarity 98.5%; Pred. No. 1.8e-60;
Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVSEFAPASRRGELAVCDVSGWYDRTAVDLRGREVEVLGEVPAAGSPRLQYFFETR 60
DB 1 GVSEFAPASRRGELAVCDVSGWYDRTAVDLRGREVEVLGEVPAAGSPRLQYFFETR 60
QY 61 CKADNAEEGCGAGGCGGCGVDRRHWSSECKAKOSYVRLTAHAQGVGMIRIDTACV 120
DB 61 CKADNAEEGCGAGGCGGCGVDRRHWSSECKAKOSYVRLTAHAQGVGMIRIDTACV 120
QY 121 CTLLSRTGRA 130
DB 121 CTLLSRTGRA 130

RESULT 10

US-08-450-842-63
Sequence 63, Application US/08450842
Patent No. US20020045576A1
GENERAL INFORMATION:
APPLICANT: GENE TECH, INC.
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patlin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/450,842
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2CID3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 63:
SEQUENCE CHARACTERISTICS:
LENGTH: 130 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-450-842-63

Query Match 98.0%; Score 684; DB 8; Length 130;
Best Local Similarity 98.5%; Pred. No. 1.8e-60;
Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2C1D3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 68:
SEQUENCE CHARACTERISTICS:
LENGTH: 130 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-450-842-68

Query Match 98.1%; Score 685; DB 8; Length 130;
Best Local Similarity 98.5%; Pred. No. 1.4e-60;
Matches 128; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVSETAPASRRGELAVCDVAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLROYFFETR 60
DB 1 GVSETAPASRRGELAVCDVAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLROYFFETR 60
QY 61 CKADNAEEGGGAGGGCGRGVDRRHVWSECKAKOSYVRLTAHQGRVGMIRIDTACV 120
DB 61 CKADNAEEGGGAGGGCGRGVDRRHVWSECKAKOSYVRLTAHQGRVGMIRIDTACV 120
QY 121 CTLLSRTGRA 130
DB 121 CTLLSRTGRA 130

RESULT 7

US-08-450-842-22
Sequence 22, Application US/08450842
Patent No. US20020045576A1

GENERAL INFORMATION:
APPLICANT: GENENTECH, INC.
APPLICANT: ROSENTHAL, ARNON
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patlu (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/450.842
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2C1D3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674

TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
LENGTH: 130 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-450-842-22

Query Match 98.0%; Score 684; DB 8; Length 130;
Best Local Similarity 98.5%; Pred. No. 1.8e-60;
Matches 128; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVSETAPASRRGELAVCDVAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLROYFFETR 60
DB 1 GVSETAPASRRGELAVCDVAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLROYFFETR 60
QY 61 CKADNAEEGGGAGGGCGRGVDRRHVWSECKAKOSYVRLTAHQGRVGMIRIDTACV 120
DB 61 CKADNAEEGGGAGGGCGRGVDRRHVWSECKAKOSYVRLTAHQGRVGMIRIDTACV 120
QY 121 CTLLSRTGRA 130
DB 121 CTLLSRTGRA 130

RESULT 8

US-08-450-842-59
Sequence 59, Application US/08450842
Patent No. US20020045576A1

GENERAL INFORMATION:
APPLICANT: GENENTECH, INC.
APPLICANT: ROSENTHAL, ARNON
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patlu (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/450.842
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2C1D3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 59:
SEQUENCE CHARACTERISTICS:

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2C1D3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-450-842-2

Query Match 98.7%; Score 689; DB 8; Length 210;
Best Local Similarity 99.2%; Pred. No. 9.5e-61;
Matches 129; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GYSETAPASRRGELAVCAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLROYFFETR 60
DB 81 GYSETAPASRRGELAVCAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLROYFFETR 140
QY 61 CKADNAEEGPGAGGGCGGVDRHVMVSECKAKOSYVRALTAHAQGRVGMIRIDTACV 120
DB 141 CKADNAEEGPGAGGGCGGVDRHVMVSECKAKOSYVRALTAHAQGRVGMIRIDTACV 200

QY 121 CTLSRTGRA 130
DB 201 CTLSRTGRA 210

RESULT 5

US-08-450-842-62
Sequence 62, Application US/08450842
Patent No. US20020045576A1
GENERAL INFORMATION:
APPLICANT: GENENTECH, INC.
APPLICANT: ROSENTHAL, ARNON
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 Inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/450,842
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:

APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.
REGISTRATION NUMBER: 36,700
REFERENCE/DOCKET NUMBER: 666P2C1D3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-8674
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 62:
SEQUENCE CHARACTERISTICS:
LENGTH: 130 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-450-842-62

Query Match 98.1%; Score 685; DB 8; Length 130;
Best Local Similarity 98.5%; Pred. No. 1.4e-60;
Matches 128; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GYSETAPASRRGELAVCAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLROYFFETR 60
DB 1 GYSETAPASRRGELAVCAVSGWTDRTAVDLRGREVEVLGEVPAAGSPLROYFFETR 60
QY 61 CKADNAEEGPGAGGGCGGVDRHVMVSECKAKOSYVRALTAHAQGRVGMIRIDTACV 120
DB 61 CKADNAEEGPGAGGGCGGVDRHVMVSECKAKOSYVRALTAHAQGRVGMIRIDTACV 120
QY 121 CTLSRTGRA 130
DB 121 CTLSRTGRA 130

RESULT 6

US-08-450-842-68
Sequence 68, Application US/08450842
Patent No. US20020045576A1
GENERAL INFORMATION:
APPLICANT: GENENTECH, INC.
APPLICANT: ROSENTHAL, ARNON
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 Inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/450,842
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/648482
FILING DATE: 31-JAN
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/587707
FILING DATE: 1991
ATTORNEY/AGENT INFORMATION:
NAME: Torchia, Timothy E.

Qy	121	CTLLSRTGRA	130
Db	121	CTLLSRTGRA	130

RESULT 2
US-09-81

```

: Sequence 12, Application US/09813398
: Patent No. US20020169292A1
:
: GENERAL INFORMATION:
:
: APPLICANT: Bruce D. Weintraub
: APPLICANT: Mariusz W. Szudlinski
: APPLICANT: University of Maryland
: TITLE OF INVENTION: CYSTINE KNOT GROWTH FACTOR MUTANTS
: FILE REFERENCE: UOFMD.003C1
: CURRENT APPLICATION NUMBER: US/09/813.398
: CURRENT FILING DATE: 2001-03-20
: PRIOR APPLICATION NUMBER: PCT/US99/05998
: PRIOR FILING DATE: 1999-03-19
: PRIOR APPLICATION NUMBER: PCT/US98/19772
: PRIOR FILING DATE: 1998-09-22
: NUMBER OF SEQ ID NOS: 41
: SOFTWARE: FastSeq for Windows Version 4.0
:
: SEQ ID NO 12
:
: LENGTH: 131
:
: TYPE: PRT
:
: ORGANISM: HOMO SAPIEN
:
: US-09-813-398-12

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Query Match	98.7%	Score 689;	DB 9;	Length 131;
Best Local Similarity	99.2%	Pred. No. 5.9e-61;		
Matches 129; Conservative	0;	Mismatches 1;	Indels 0;	Gaps 0;

Qy	1	GVSETPAPSRRELAVCDVAVSGWMTDRRTAYDLKREVEYUGVYPAAGGSPFLRQYFEETR	60
Db	2	GVSETPAPSRRELAVCDVAVSGWMTDRRTAYDLKREVEYUGVYPAAGGSPFLRQYFEETR	61
Qy	61	CAADNAEEGGPGAGGCGRGVDRRIHWSECKAKOSYVALTAHAQGRVGMWIRIDTACV	120
Db	62	CAADNAEEGGPGAGGCGRGVDRRIHWSECKAKOSYVALTAADQGRVGMWIRIDTACV	121

RESULT 3
115-009-45

```

US-08-450-842-0
: Sequence 6, Application US/08450842
: Patent No. US7002004/576A1
: GENERAL INFORMATION:
: APPLICANT: GENENTECH, INC.
: TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
: NUMBER OF SEQUENCES: 100
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Genentech, Inc.
: STREET: 460 Point San Bruno Blvd
: CITY: South San Francisco
: STATE: California
: COUNTRY: USA
: ZIP: 94080
: COMPUTER READABLE FORM:
: MEDIUM TYPE: 5.25 inch, 360 KB floppy disk
: COMPUTER: IBM PC compatible
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: palin (Genentech)
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/450,842
: FILING DATE:
: CLASSIFICATION: 514
: PRIOR APPLICATION DATA:
: APPLICATION NUMBER: 08/426419

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; FILING DATE: 19-APR-1995
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: 08/030013
 ; FILING DATE: 22-MAR-1993
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: 07/648482
 ;

Query Match	98.7%	Score	689;	DB	8;	length	168;
Best Local Similarity	99.2%	Pred	NO	7.6e-61;			
Matches 129; Conservative	0;	Mismatches	1;	Indels	0;	Gaps	0;

Qy	1	GVSFAPPSRRRELAVCPAVSGMWTDRTADVLGREGVEVLGEVPAAGGSPLRQFPFETR	60
Db	39	GVSFAPPSRRRELAVCPAVSGMWTDRTADVLGREGVEVLGEVPAAGGSPLRQFPETR	98
Qy	61	CADNAEEGGPGAGGGCGVDRHHWSECAKOSYRALTAHQSGYGMWHTITDACY	120
Db	99	CADNAEEGGPGAGGGCGVDRHHWSECAKOSYRALTAHQSGYGMWHTITDACY	158

RESULT 4
HC-08-450-843-2

US-08-450-842-2
Sequence 2, Application US/08450842
Patent No. US20020045576A1
GENERAL INFORMATION:
APPLICANT: GENENTECH, INC.
APPLICANT: ROSENTHAL, ARNON
TITLE OF INVENTION: NOVEL NEUROTROPHIC FACTOR
NUMBER OF SEQUENCES: 100
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/450, 842
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/426419
FILING DATE: 19-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/030013
FILING DATE: 22-MAR-1993

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OM protein - protein search, using sw model

Run on: December 2, 2002, 15:08:47 ; Search time 4.5721 Seconds
(without alignments)
452.778 Million cell updates/sec

Title: US-10-072-681-6
Perfect score: 698
Sequence: 1 GVSETAPASRSGELAVCDAY.....RMIRIDPACVTLISRTGRA 130

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 102317 seqs, 15924203 residues

Total number of hits satisfying chosen parameters: 102317

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Maximum Match 0%
Listing first 45 summaries

Database :

Published_Applications_AA:*
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2: /cgn2_6/ptodata/1/pubppa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubppa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubppa/US07_NEW_PUB.pep:*
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12: /cgn2_6/ptodata/1/pubppa/US60_NEW_PUB.pep:*
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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length DB	ID	Description
1	698	100.0	130	12	US-10-072-681-6
2	689	98.7	131	9	US-09-813-398-12
3	689	98.7	168	8	US-08-450-842-6
4	689	98.7	210	8	US-08-450-842-2
5	685	98.1	130	8	US-08-450-842-62
6	685	98.1	130	8	US-08-450-842-68
7	684	98.0	130	8	US-08-450-842-22
8	684	98.0	130	8	US-08-450-842-59
9	684	98.0	130	8	US-08-450-842-61
10	684	98.0	130	8	US-08-450-842-63
11	684	98.0	130	8	US-08-450-842-64
12	684	98.0	130	8	US-08-450-842-69
13	683	97.9	130	8	US-08-450-842-20
14	683	97.9	130	8	US-08-450-842-23
15	683	97.9	130	8	US-08-450-842-60
16	683	97.9	130	8	US-08-450-842-65
17	683	97.9	130	8	US-08-450-842-70
18	683	97.9	130	8	US-08-450-842-72
19	682	97.7	130	8	US-08-450-842-66

20	682	97.7	130	8	US-08-450-842-73	Sequence 73, Appl
21	681	97.6	130	8	US-08-450-842-17	Sequence 17, Appl
22	681	97.6	130	8	US-08-450-842-67	Sequence 67, Appl
23	680	97.4	130	8	US-08-450-842-18	Sequence 18, Appl
24	680	97.4	130	8	US-08-450-842-71	Sequence 71, Appl
25	679	97.3	130	8	US-08-450-842-19	Sequence 19, Appl
26	679	97.3	130	8	US-08-450-842-21	Sequence 21, Appl
27	677	97.0	130	8	US-08-450-842-13	Sequence 13, Appl
28	677	97.0	130	8	US-08-450-842-14	Sequence 14, Appl
29	677	97.0	130	8	US-08-450-842-15	Sequence 15, Appl
30	677	97.0	130	8	US-08-450-842-16	Sequence 16, Appl
31	669.5	95.9	129	8	US-08-450-842-53	Sequence 53, Appl
32	669.5	95.9	129	8	US-08-450-842-54	Sequence 54, Appl
33	651	93.3	130	8	US-08-450-842-47	Sequence 47, Appl
34	650	93.1	126	8	US-08-450-842-57	Sequence 57, Appl
35	642	92.0	124	8	US-08-450-842-55	Sequence 55, Appl
36	586	84.0	114	8	US-08-450-842-58	Sequence 58, Appl
37	571	81.8	105	8	US-08-450-842-31	Sequence 31, Appl
38	558	79.9	103	8	US-08-450-842-30	Sequence 30, Appl
39	540	77.4	142	8	US-08-450-842-52	Sequence 52, Appl
40	535.5	76.7	107	8	US-08-450-842-56	Sequence 56, Appl
41	535.5	76.7	132	8	US-08-450-842-51	Sequence 51, Appl
42	501.5	71.8	186	8	US-08-450-842-12	Sequence 12, Appl
43	494.5	70.8	216	8	US-08-450-842-8	Sequence 8, Appl
44	478.5	68.6	257	8	US-08-450-842-10	Sequence 10, Appl
45	468	67.0	92	8	US-08-450-842-50	Sequence 50, Appl

ALIGNMENTS

RESULT 1
US-10-072-681-6
; Sequence 6, Application US/10072681
; Patent No. US20020137893A1
; GENERAL INFORMATION:
; APPLICANT: Burton, Louis E.
; APPLICANT: Schmelzer, Charles H.
; TITLE OF INVENTION: PURIFICATION OF NCF
; FILE REFERENCE: GENENT.037C3
; CURRENT APPLICATION NUMBER: US/10/072,681
; CURRENT FILING DATE: 2002-02-08
; PRIOR APPLICATION NUMBER: 60/030838
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: 60/047855
; PRIOR FILING DATE: 1997-05-29
; PRIOR APPLICATION NUMBER: 08/970865
; PRIOR FILING DATE: 1997-11-14
; PRIOR APPLICATION NUMBER: 09/363573
; PRIOR FILING DATE: 1999-07-29
; PRIOR APPLICATION NUMBER: 09/675,503
; PRIOR FILING DATE: 2000-09-29
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 6
; LENGTH: 130
; TYPE: PRT
; ORGANISM: Homo sapien
; US-10-072-681-6

Query Match 100.0%; Score 698; DB 12; Length 130;
Best Local Similarity 100.0%; Pred. No. 7.7e-62;
Matches 130; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 1 GVSETAPASRSGELAVCDAYSGWYTDRTTAVDLGREVVLGEVPAAGSPLRYFFETR 60
Qy 61 CKADNAEEGCGAGCGGCGRGVDRRHWWSECKAKOSYYPALTAHAQGRVGMWIRIDPACV 120
Db 61 CKADNAEEGCGAGCGGCGRGVDRRHWWSECKAKOSYYPALTAHAQGRVGMWIRIDPACV 120